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THE

Carolina Journal of Pharmacy

Published Quarterly by the William Simpson
Pharmaceutical Society of the University
of North Carolina School of Pharmacy
at Chapel Hill

INDEX TO VOL. I

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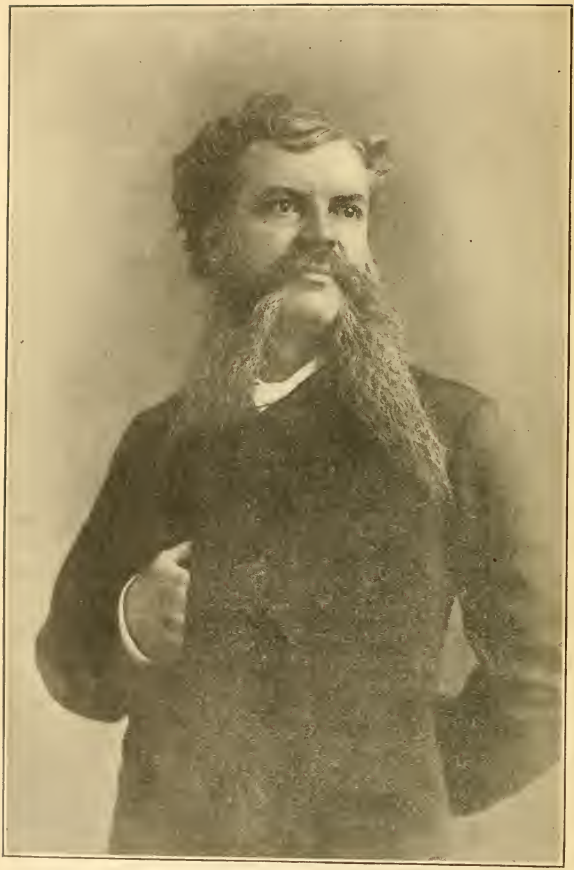

THE LATE WILLIAM SIMPSON, OF RALEIGH, IN WHOSE HONOR IS NAMED THE PHARMACEUTICAL SOCIETY WHICH PUBLISHES THIS PERIODICAL

The Carolina Journal *of* Pharmacy

Published quarterly by the William Simpson Pharmaceutical Society of the University of North Carolina School of Pharmacy at Chapel Hill.

VOL. 1 MAY, 1915 NO. 1

The subscription price of this periodical is fifty cents a year.

EDITORIAL BOARD

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GREETINGS

The Carolina Journal of Pharmacy makes its debut this month as a quarterly publication devoted to the interests of the students, clerks and druggists of North Carolina.

The Journal is the official organ of the William Simpson Pharmaceutical Society, an organization composed of members of the Pharmacy School of the University of North Carolina, the purpose of which is to promote the science of pharmacy.

The editors of The Journal are making no glaring statements about the wonderful things they are going to do. They simply promise to put their energies and love-of-service into the pleasant task of writing a journal about pharmacy in this State and will give of the best they have to the undertaking. They will be guided by experience and by the wishes of the readers and will endeavor to make each succeeding issue an improvement over the one preceding.

The hearty co-operation of the North Carolina druggists and a share of their sympathy is desired by The Journal.

SOUTHERN SCHOOLS OF PHARMACY

A study of the directory of the schools of pharmacy in the South which is printed in this issue of THE JOURNAL discloses the fact that every variety of school is represented. The point we wish to make is that it is unnecessary for a student to leave the Southland to get any kind of pharmaceutical education he may desire, since there is a school to meet every need.

The degrees of Graduate in Pharmacy, Pharmaceutical Chemist, Doctor of Pharmacy, Bachelor of Science in Pharmacy, and Master of Pharmacy are all offered at one or another of our institutions. These schools are developing rapidly, as a comparison of their late and early catalogues will show. They will develop more rapidly if all Southern students will go to Southern, instead of Northern, schools. We are not preaching sectionalism but merely want to emphasize the truth that today a Southerner can get what he wants in the South.

THE RATIO OF DRUG STORES TO POULATION IN NORTH CAROLINA CITIES

	NO. STORES	POPULAT'N
Charlotte	30	34,000
Durham	23	18,000
Raleigh	20	19,000
Greensboro	18	16,000
Wilmington	16	26,000
Asheville	13	19,000
Winston-Salem	10	23,000
Goldsboro	9	6,000
New Bern	8	10,000
Salisbury	8	7,000
Burlington	7	5,000
Concord	6	9,000
Fayetteville	6	7,000
Henderson	6	5,000
Gastonia	5	6,000
Hendersonville	5	3,000
Kinston	5	7,000
Statesville	5	5,000
Wilson	5	7,000

Taking the towns collectively, there is one drug store for every 1,072 people. This is a general average.

Durham's ratio of drug stores to population is higher than that of any other town, while Winston-Salem with one store to every 2,300 people has the lowest ratio.

The list of drug stores in each town is taken from the North Carolina Year Book, while the population figures are those given in the 1910 Government census, in round numbers.

CO-OPERATION IS THE DRUGGIST'S SALVATION

Times change and so do business methods. Yesterday's ideas are obsolete now. Our fathers preached that competition is the life of business. It is a part of the life, but not all by any means. Today co-operation must be considered as one of the essentials of well-ordered business. Harmony among competitors shows modern spirit. Competition does not preclude co-operation. Rivalry and friendliness are not incompatible. There are many excellent results which can be attained by the several druggists in a community if they will pull together instead of acting like so many cats whose tails are tied together. The following suggestions are thrown out which are certainly worth considering. They are intended to apply in a town or city having three or more stores.

1. *Why work sixteen hours a day?* Because the drug stores have gradually worked up to that number and have stayed open for that length of time for several generations is no reason why the custom should be continued. If you could be assured that your competitors would all close at a given hour, say nine o'clock in the evening, wouldn't you prefer going home to your family, or resting, to hanging on in the store hoping for another dollar to be registered? And if every one else closed up shop wouldn't that same dollar be likely to turn up next morning? Perhaps there would be some loss at the soda fountain by closing at nine, but please think on this thought a moment. Your efficiency and that of your

clerks is reduced 15 to 20 per cent when your mental and physical forces are taxed for sixteen hours on a stretch. And when these sixteen-hour days pile up into months and years, do you suppose Nature will not require her toll? Now what is this 15 to 20 per cent lost efficiency worth? In actual dollars and cents, not to mention the loss in health, it costs you more money to stay open after nine o'clock than you can possibly make after that hour; in fact, you have to turn over the profits of the first hour the next morning to pay for the lost efficiency. Even if you agree that in the long run you do not make anything by staying open late, you will perhaps continue to do so just because Smith, on the corner above, is keeping open, and you cannot afford, from fear that your customers may be permanently lost to you, to let them go to him for a purchase after you have closed. Here is the remedy: Get together with Smith and Brown and Jones and Green; form a local association with them. Sign a contract together to close and lock the doors at nine o'clock. Have it stipulated that any one violating the agreement is to be punished by a five-dollar fine, the fine to be used for paying the expenses of a smoker to be held some night about *nine fifteen*. This is co-operation.

Now let's carry the local association idea a little further:

2. *How about Price-Cutting in your town?* Your competitiors cut, do they? Why not have the contract referred to above read also that all standard goods are to be sold strictly at the regular selling prices by all the members of the Association?

3. *And Sunday Closing.* This could be so regulated by the Association that only one store in the town stays open on Sundays and then only between, say, twelve and two. The stores could rotate and this would make it easy for them all. Remember that one day out of seven must be spent in rest or in some form of recreation if a high standard of efficiency is to be maintained.

4. *About Buying Clubs.* If a local association is formed and a spirit of harmony and co-operation exists, there is no

reason why there should not be a central agent who could purchase certain lines for all the stores at the same time, according to prearranged plans. By buying in large quantities a handsome discount could be secured and divided among the members. This discount could not be obtained by a single dealer purchasing in small quantities. Then, too, if one member of the association should get over-stocked on a certain line, the central buyer could place the surplus among the other members who might have need for the goods. This would relieve many unprofitable situations.

Some one has to take the initiative in matters of this kind. Don't wait for the other man to "start the ball rolling." Jump in and organize a local drug club; draw up the rules and regulations; arrange for a smoker occasionally; get together; CO-OPERATE.

INCREASE IN SELLING PRICES AND SALARIES

How are our druggists taking care of the increased cost of living? When living expenses go up ten per cent, is the druggist to continue to charge the same prices for drugs that were obtained when everything was cheaper? A clerk's salary should be increased in proportion to the advanced cost of living. The proprietor should not have to take this increase out of the store profits but rather should advance his retail prices to take care of his added expense. Or else he should calculate his cost of doing business as being one or two per cent more than before.

DRUG WASTE IN NORTH CAROLINA

Few people realize it perhaps, but every year there is a loss to the people of this State of many thousands of dollars. All around us are immense values which are not being utilized, opportunities for making money which are thrown away. It is hardly an exaggeration to say that 50 per cent of the crude

drugs official in the Pharmacopœia either grow naturally in North Carolina, or can be cultivated here to great advantage. Why should we allow these treasures to go uncollected? Why not avail ourselves of a natural source of revenue? It is true that there are more crude drugs gathered in this State now than formerly, but even yet we have not begun fully to reap the harvest which Nature brings us every year. The European war should open the eyes of our people to the fact that there is a market waiting for all properly cured crude drugs. The previous source of many of these plants, Europe, has been so ravaged by the armies that the manufacturing houses will have to look elsewhere for their supply of crude drugs. The United States will be able to furnish most of them and will do it. North Carolina *could* furnish a vast quantity, but will she? Any one particularly interested in the subject can obtain information on what drugs grow naturally in North Carolina and what drugs can be profitably cultivated here by writing the editor of THE JOURNAL.

N. C. MEMBERS OF THE A. Ph. A.

We are pained to say that our State is not furnishing its pro rata share of members to our national organization. The American Pharmaceutical Association has done and is doing a wonderful work for the pharmacists of the Union, and it is the duty of every one connected with the retail drug business to join this alliance. The dues are five dollars for the year. In addition to the privileges of membership, this also entitles the member to receive the Journal of theAssociation, which in itself is well worth the annual dues. Any pharmacist in the State desiring to join the A. Ph. A. will please write the editor of THE CAROLINA JOURNAL OF PHARMACY. An appropriate blank will be forwarded at once to be filled out by the applicant.

The following table gives the names of the American Pharmaceutical Association members in North Carolina and the years in which they joined:

K. E. Bennett	1913	Bryson City
J. P. Stowe	1914	Charlotte
DeWitt C. Swaringen	1905	China Grove
J. G. Beard	1914	Chapel Hill
E. V. Howell	1900	Chapel Hill
W. W. Horne	1902	Fayetteville
J. E. F. Hicks	1910	Goldsboro
J. S. McDonald	1914	Lumberton
C. P. Greyer	1912	Morganton
F. B. Hays	1902	Oxford
Ira W. Rose	1912	Rocky Mount
E. V. Zoeller	1878	Tarboro
E. E. Missildine	1910	Tryon
J. H. Hardin	1881	Wilmington
E. L. Tarkington	1912	Wilson

A TWO-FOOT ROW OF REFERENCES

Occasionally some writer publishes a list of what he considers the books which should be in every druggist's libraray. THE JOURNAL offers the following as being a list of good books to have above the prescription case.

United States Pharmacopoeia, ninth edition.
Remington's or Arny's Practice of Pharmacy.
Culbreth's Materia Medica.
Scoville's Art of Compounding.
Ruddiman's Incompatibilities in Prescriptions.
O'Connor's Treatise on Commercial Pharmacy.
Sturmer's Pharmaceutical Arithmetic.
Holland's Methods of Analyzing Milk, Urine, Gastric Contents, etc.
Gould's Medical Dictionary.
McPherson & Henderson's Inorganic Chemistry.
Remsen's Organic Chemistry.

There are of course many other treatises on pharmacy and its allied branches which would prove very valuable to the pharmacist, but the books listed above make a good selection for a two-foot row of references.

NORTH CAROLINA BOARD OF PHARMACY

The next meeting of the Board of Examiners will be held in Raleigh June 10th. For detailed information, apply to the Secretary, F. W. Hancock, Raleigh.

THE COMING MEETING OF THE N. C. P. A.

The Thirty-sixth Annual Meeting of the Association will be held in the city of Durham on 15, 16, and 17 of June, 1915.

An exceptionally large attendance is expected at the meetings this year because of two factors which tend to make conventions successful: 1. Durham, being centrally located and on five railroad systems, is easily reached from any part of the State. 2. The traveling men working North Carolina with drug lines have organized into an Auxiliary of the Association and have asked to take over the entertainment feature of the meetings. They promise a jolly time for the delegates. Then, too, the local druggists are well organized, are enthusiastic over the approaching meeting, and promise to do everything possible to make things pleasant for the visiting druggists.

Mr. P. W. Vaughan, for thirteen years general secretary of the N. C. P. A., was elected local secretary for the June meeting. Those familiar with Mr. Vaughan's Association work will anticipate a most successful convention.

If not the largest of all towns that manufactures smoking tobacco, Durham is certainly one of the largest. It will prove a matter of great interest to take a trip through the large factories engaged in making such popular brands of "smokes" as "Bull Durham," "Duke's Mixture," "Fatimas," "Piedmonts," and "Sovereigns," since the various processes involved, while intricate, are wonderfully fascinating.

Mr. G. C. Goodman of Mooresville will preside over the meeting. A number of important matters will be brought to the attention of the members. We conscientiously predict that the Durham meeting will be the most successful in the history of the Association.

THE RECENT PHARMACY LAW

W. W. Horne, Ph. C., Fayetteville

(Perhaps no one is more familiar with attempted and accomplished legislation pertaining to pharmacy in this state than is Mr. Horne. He has been a member of the legislative Committee of the Pharmaceutical Association for a number of years; he is also a member of the Board of Pharmacy.—Ed.)

The amendment to the State pharmacy law enacted at the recent session of the General Assembly is the result of a movement which may be said to have had its inception at the meeting of the Pharmaceutical Association held at Greensboro in 1909. At this meeting the Committee on President's Address recommended in their report that the Legislative Committee be authorized to prepare an outline draft of a law to establish two grades of licensed pharmacists—applicants for the higher grade license to be graduates from a school or college of pharmacy.

This was further discussed at the Charlotte meeting the year following. And in July, 1911, at Morehead City, the Association unanimously adopted the following resolutions:

Resolved, That the Committee on Legislation be instructed to have prepared a bill and secure its passage by the next General Assembly amending the State Pharmacy Law to provide as follows:

(1) That after two years from the passage of the amendment there shall be two grades of licensed pharmacists, the higher grade to be known as Pharmacist and the second grade as Assistant Pharmacist.

(2) That every Pharmacist registered at that time be entitled to the higher grade license carrying the right to own or manage a drug store.

(3) That it be required that all drug stores be in charge of a Registered Pharmacist of the higher grade—that any one opening a new drug store in the State shall be or employ a Registered Pharmacist to conduct same.

(4) That an Assistant Pharmacist shall have the right to fill prescriptions and practise pharmacy under the Registered Pharmacist in charge of the store.

(5) That after two years from the passage of the amendment in order to be licensed as a Pharmacist an applicant shall be not less

than 21 years of age, shall have had sufficient preliminary general education, shall have had four years experience under a licensed pharmacist, shall be a graduate of a reputable school or college of pharmacy and shall also pass an examination by the Board of Pharmacy.

(6) That in order to be licensed as an Assistant Pharmacist an applicant shall be not less than 18 years of age, shall have had sufficient preliminary general education, shall have had two years experience under a licensed pharmacist and shall also pass an examination by the Board of Pharmacy.

These resolutions were again endorsed by the State Pharmaceutical Association at the meeting in Waynesville June, 1912.

In accordance with the instructions the Legislative Committee had a bill prepared and introduced in the General Assembly of 1913. This bill received a favorable report by committees in both houses but opposition developed and prevented its passage.

The 1914 meeting at Hendersonville went on record as earnestly favoring legislation to provide higher requirements for license. The Morehead City resolutions were reaffirmed and the Committee on Legislation instructed to endeavor to secure the passage of a bill by the General Assembly of 1915.

After careful consideration a majority of the Legislative Committee concluded that the desired improvement in the law could be best brought about by eliminating, for the present, the provision for the assistant grade license. This made the bill much shorter and satisfied some opposition. It was pointed out that, when the need for a qualified assistant has developed, a bill to provide this can be drawn to take effect immediately on its passage.

Accordingly a bill was introduced referring only to the requirements for license as pharmacist. Opposition in the House made it necessary to accept as a substitute for the graduation requirement in the original bill a minimum of nine months attendance at a reputable school or college of pharmacy or medicine.

The bill passed will take effect January 1st, 1918, and the new section will read as follows:

"Section 14. That in order to become licensed as a pharmacist, within the meaning of this act, an applicant shall be not less than twenty-one years of age, he shall present to the Board of Pharmacy satisfactory evidence that he has had four years of experience in pharmacy under the instruction of a licensed pharmacist, and that he has attended a reputable school or college of pharmacy or medicine for not less than nine months and he shall also pass a satisfactory examination of the Board of Pharmacy: Provided, however, that the actual time of attendance at a reputable school or college of pharmacy, not to exceed two years, may be deducted from the time of experience required."

SOME PROPERTIES OF COLLOIDS

JAMES M. BELL, Ph. D.
Professor of Physical Chemistry in the University of North Carolina

A recent book on the *Chemistry of Colloids* by Dr. W. W. Taylor of the University of Edinburgh contains several chapters on the applications of colloid chemistry. Some of these refer to the processes of dyeing and tanning, to the purification of sewage and to vital processes within a soil. While all these are of intense interest to chemists and engineers, the last chapter in the book dealing with applications of colloid chemistry to biology is of greater interest to the medical professions. After recalling a few of the characteristics of colloids, I wish to point out a few cases where colloid chemistry has been applied to biology.

Colloid-chemistry is also called surface chemistry or capillary chemistry. The term *surface* chemistry implies that there are two substances under consideration, for in order to have a surface we presuppose two different substances or phases. It has been known for many years that chemical behavior at a surface differs from chemical behavior in mass. As an illustration, the well known fact should be cited: the foam from a soap solution is richer in soap than the original solution. Hence the surface of a soap solution is richer than the main body of the solution. Recognizing that matter in minute particles possesses large surfaces compared with its masses, we have a hint at the cause of the peculiar behavior at surfaces. It is not surprising then that solids in a very fine state of sub-division sometimes refuse to settle, and that frequently emulsions which are globules of one liquid suspended in another liquid frequently refuse to separate. These two classes form the greater part of colloid chemistry: emulsions and suspensions.

The two phases are called the *disperse phase,* which is the finely divided powder or the liquid globules, and the *dispersion medium* in which the suspension takes place. In a sense dusty air may be considered under this head, the dust particles constituting the disperse phase and the air the dispersion medium.

The difference between colloidal solutions and true solutions is one of degree and not one of kind. In colloidal solutions the matter in solution is present in masses large enough to be recognizable, while in true solutions we are as yet unable to see the particles. As there are also solutions which in some respects resemble colloidal solutions and in other respects resemble true solutions, the inference naturally follows that there is really no sharp line of distinction between colloidal solutions and true solutions.

Some of the properties of colloidal solutions are of great interest. (1) Particles in the colloidal state, being larger than in the State of true solution, are unable to pass through membranes which are permeable to ordinary dissolved material. It was this property which first attracted attention to the subject of colloids. The membrane here acts as a filter allowing the small particles to pass, but not the larger ones. (2) The boiling point of a true solution is higher than the boiling point of the pure solvent, and likewise the freezing point of a true solution is lower than the freezing point of the pure solvent. For colloidal solutions, however, there is almost no difference in these temperatures for the pure solvent and for the colloidal solution. (3) A beam of light through a colloidal solution is visible from the side, just as a beam of sunlight is visible in dusty air. Through a true solution there is no marking of a path of light. This phenomenon is attributable to reflection of light at the surface of the disperse phase. (4) Under the microscope, colloidal particles are seen to be in a state of continual agitation. This phenomenon is called the Brownian Movement. (5) When an electric current is passed through a colloidal solution, the colloid migrates, some colloids moving with the current, and others in the opposite direction. This behavior leads to the classification of colloids into positive and negative. (6) Colloids are coagulated or flocculated by additions of other substances. The process consists in the gathering of a number of particles into an aggregate which settles out. Negative colloids are precipitated by metals in solution, or positive ions; and positive colloids are precipitated by negative ions. The precipitation seems to be dependent on

an electrical neutralization of charges. This theory is borne out by the fact that if a solution of a positive colloid is mixed with a solution of a negative colloid they precipitate each other. (7) Some colloidal solutions to which other more stable colloids are added, assume a greater stability, being flocculated under the conditions for the flocculation of the more stable colloid.

The behavior of colloids is dependent on surface effects and changes in surface energy, such changes occurring at the surface between the disperse phase and the dispersion medium. In the aggregate this surface is enormous compared to the masses of the substances. The peculiar behavior of blood in absorbing the gases oxygen and carbon dioxide is quite analogous to the dyeing of silk or cotton fibers by certain dyes. The mathematical formula which is found to connect the amount of gas absorbed with the pressure, is similar in form to that which connects the amount of dye absorbed and the concentration of dye in the dye solution. Taylor says of the solution of gases in the blood: "There can be little doubt that the gases are absorbed by the blood, probably at the surface of the disperse phase." This disperse phase is hæmoglobin, which is in colloidal form.

The reaction between toxin and anti-toxin has also a close analogy in the coagulation of egg albumen by an electrolyte. The diptheria anti-toxin removes from solution (or flocculates) more of the toxin when added in one dose than when added in smaller doses at intervals of time. Egg albumen is coagulated more by one addition of ammonium sulphate solution than by the same total addition of ammonium sulphate solution distributed over several hours of time. Furthermore the distribution of the toxin between the solution and the anti-toxin may be represented by the usual mathematical formula for absorption. These two facts, while not proving that the toxin and anti-toxin effect are colloidal in character, are very suggestive of further investigation in which other analogies between toxins and colloids should be looked for.

These are just a few suggestions which colloid chemistry has offered to the biological sciences.

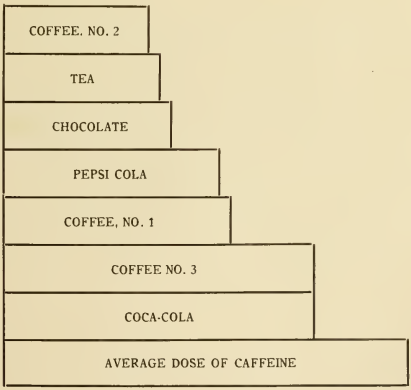
THE CAFFEINE CONTENT OF VARIOUS BEVERAGES

John L. Henderson

A discussion regarding the relative caffeine per cent of some of the commoner used beverages led to a series of analyses, the results of which are given below in terms of grammes of caffeine or allied body to the ordinary glass or cup of the beverage assayed.

Specimen	Volume	Constituent	Amount
Cup of Coffee No. 1	160 cc.	Caffeine	.0287 Gm.
Cup of Coffee No. 2	165 cc.	Caffeine	.0174 Gm.
Cup of Coffee No. 3	190 cc.	Caffeine	.0372 Gm.
Cup of Tea No. 1	180 cc.	Theine	.0176 Gm.
Glass of Coca-Cola	190 cc.	Caff. (or allied body)	.0371 Gm.
Glass of Pepsi-Cola	193 cc.	Caff. (or allied body)	.0278 Gm.
Cup of Chocolate	158 cc.	Theobromine	.0195 Gm.

The figure below shows graphically the relative amounts of caffeine in various beverages and also their relation to the average therapeutic dose.



This shows that in each cup or glass of these beverages there is caffeine equivalent to from one-third to three-fourths the therapeutic dose.

In addition to caffeine, there is in coffee, enough tannic acid and caffeon (the volatile substance which furnishes the agreeable aroma) to cause some gastric disturbance. In tea, there is a larger percentage of tannic acid and a corresponding amount of theon, and in Coca-Cola and Pepsi-Cola this astringent principle is also not lacking. Then, the impaired digestion which usually accompanies their habitual use may not be due so much to caffeine but to the astringent substance tannic acid. It influences the digestive processes by considerably decreasing the gastric secretion.

Caffeine-like substances, with the exception of theobromine, which is much less active, have a distinct action upon the nervous system, principally upon the fore brain or intellectual apparatus, and for that reason one can think clearer and faster under their influence. However, the buoyant and exhilirating feeling produced by caffeine and its ability to relieve fatigue without producing much untoward after effect may be responsible for its extensive use.

Is caffeine a habit-forming drug? As compared with morphine, cocaine, etc., it is not. After its continued use the cells of the body are not so affected as to demand caffeine in order that they may perform their normal functions. But, it is a habit-forming drug in that the individual, having once experienced a tonic stimulation unaccompanied by marked, subsequent depression, desires it in order that he may more efficiently work or think. This little after-effect, however, is only applicable to a moderate use of the drug. Excessively used, coffee, tea, Coca-Cola, etc., usually produce nervousness in addition to impaired digestion.

RESULTS OF ANALYSIS OF THENTY-SIX BRANDS OF CIGARETTES

By AZOR THURSTON

In the April issue of the Journal of the American Pharmaceutical Association

Brand	Nicotine	FILLER								PAPERS							
		H_2O Sol. Ash	H_2O Ins. Ash	HCl Ins. Ash	Total Ash	Alk. H_2O Sol. Ash	Alk. H_2O Ins. Ash	Total Alkalinity Ash		H_2O Sol. Ash	H_2O Ins. Ash	HCl Ins. Ash	Total Ash	Alk. H_2O Sol. Ash	Alk. H_2O Ins. Ash	Total Alkalinity Ash	
Nebo	2.03	3.46	18.34		21.80	1.53	12.18	13.71		3.21	14.30		17.51	6.03	26.60	32.63	
Fatima	2.79	3.53	11.15	2.69	14.68	1.56	13.42	14.98		1.02	18.79		19.81	.99	40.79	41.78	
Hassan*	1.94	3.73	12.83	4.31	16.56	2.35	7.40	9.75		.92	17.36	2.24	18.28	1.06	51.57	52.63	
Sweet Caporal	2.05	3.02	10.49	4.90	13.51	.97	11.53	12.50		.96	1.06		2.02	3.25		3.25	
Nebo*	1.93	4.03	11.71	3.20	15.74	1.98	18.38	20.36		2.29	14.13	.36	16.42	5.59	29.96	35.55	
Helmar	1.56	4.67	13.74	.02	18.41	3.89	22.69	26.58		.48	17.10	.02	17.58	.69	26.74	27.43	
Mogul*	1.45	3.81	10.94	1.55	14.75	1.87	19.61	21.48		1.78	15.31		17.09	5.30	34.08	39.38	
Egyptian*	1.59	4.09	14.74	3.15	18.83	2.72	24.40	27.12		1.08	17.16		18.24	1.83	36.26	38.09	
Omar	1.98	3.64	10.74	2.84	14.38	2.35	18.44	20.79		4.19	14.02	.45	18.21	.37	35.51	35.88	
Mural	1.52	3.48	12.92	2.13	16.40	3.71	22.87	26.58		1.04	16.72	.44	17.76	2.38	38.71	41.09	
Royal Nester	1.47	3.68	14.65	3.14	18.33	2.10	21.85	23.95		.47	17.94	2.88	18.41	.87	37.63	38.50	
Turkish Trophies	1.44	4.08	12.92	2.68	17.00	3.00	18.95	21.95		1.90	16.36	.25	18.26	6.34	33.88	40.22	
Home Run‡	1.89	5.69	13.79	3.06	19.48	4.25	22.40	26.65		.93	4.04	.78	4.97	1.98	9.18	11.16	
Home Run‡	1.67	5.48	12.87	2.30	18.35	4.23	12.50	26.75		1.60	2.95		4.55	4.01	8.63	12.64	
Home Run‡	1.78	6.06	13.41	2.31	19.47	4.60	27.95	33.55		1.11	3.58	.74	4.69	3.72	9.51	13.23	
Piedmont‡	3.34	3.06	8.92	2.72	11.98	.45	13.05	13.50		.94	4.29	.72	5.23	1.59	7.60	9.19	
Zubelda	1.97	3.63	10.68	1.93	14.31	2.28	18.55	20.83		1.49	20.63	.18	22.12	2.51	44.04	46.55	
LaLucbana‡	.43	6.92	15.01	2.12	21.93	6.50	23.60	30.11		2.16	10.25	1.13	12.41	2.03	21.61	23.64	
Tareyton	1.75	3.67	10.51	1.66	14.18	1.36	18.39	18.75		.29	15.45		15.74	1.74	29.79	31.53	
Egyptienne Luxury	1.60	3.88	12.11	2.03	15.99	2.75	20.00	22.75		.76	19.45	.59	20.21	1.23	52.87	54.10	
Fifty-six	1.43	3.27	12.23	2.09	15.50	3.10	19.45	22.55		2.17	14.19	1.92	16.36	6.39	30.68	37.07	
Rameses	1.73	3.14	13.50	3.16	16.64	1.85	20.20	22.05		1.75	12.13		13.88	3.99	30.46	34.45	
Schinasi	1.51	3.48	14.22	2.72	17.70	2.60	23.85	26.45		1.76	19.84	4.66	21.60	2.88	40.61	43.49	
Condax‡†	1.06	3.30	11.67	1.83	14.97	2.50	20.50	23.00		1.53	15.39	.18	16.92	3.26	45.64	48.90	
Egyptian Straights	1.45	3.98	13.70	2.67	17.68	2.50	22.80	25.30		2.86	15.09		17.95	7.61	36.45	44.06	
Egyptian Arabs	1.35	3.54	14.99	3.25	18.53	2.65	22.70	25.35		2.09	11.64	2.38	13.73	6.19	27.72	33.91	
Makaroff	1.21	1.02	15.65	2.48	16.67	2.50	22.00	24.50		.62	10.64	.41	11.26	1.03	26.61	27.64	
Phillip Morris & Co.	1.48	3.50	13.44	3.10	16.94	2.00	20.50	22.50		1.88	15.18	.18	17.06	3.27	39.21	42.48	
Average	1.69	3.89	12.92	2.13	16.81	2.64	19.65	22.29		1.54	13.39	.73	14.93	3.15	30.44	33.59	

* Cork Tips
‡Responds to the test for nitrates in the papers.
†Straw Tips

ASPIRIN AND ACETYLO-SALICYLIC ACID

F. J. ANDREWS

There has been much discussion in the United States over the relative merits of the patented acetyl derivitive of salicylic acid sold under the trade name of Aspirin and the drug marketed under the name of acetylo salicylic acid. There has also been much speculation over the possibility of differentiating the two. It is the purpose of this article to show the chemical and the physical similarities and dissimilarities only, and not their relative therapeutic values.

The tremendous sales of Aspirin, amounting in 1907 to over two million ounces and probably three or four times that amount now, have stimulated the manufacture of acetylo salicylic acid (sold as such) until in 1907 the sale of this drug had also reached two million ounces yearly. As the patent rights of Aspirin have been upheld in this country and acetylo salicylic acid cannot be legally marketed, it is of interest to know if it is possible to differentiate between Aspirin (Bayer), which is also an acetyl derivative of salicylic acid, and the various acetylo salicylic acids which are on the market. If both are pure it has been found to be impossible to distinguish one from the other by chemical means, both being chemically the same substance, and therefore responding to the same tests. It has been reported that tracer has been added to Aspirin by the manufacturers, but after many analyses of various samples I have been unable to find such an agent present. Though the two products are chemically identical, I found there was a physical difference that could be determined by microscopical methods; the difference being in the structure and shape of the crystals. The crystals of the acetylo salicylic acids, manufactured by Heyden, Kahlbaum, the Crown Chemical Company and a number of other chemical houses have slender, almost needle shapes with blunt flat ends. As is also the case in many other chemical salts there are present crystals of various other shapes, but the preponderance of the characteristic shapes makes it comparatively easy to identify the

samples. The crystals of Aspirin (Bayer) have a preponderance of short flat crystals which are not so blunt, and very rarely is a needle-shaped crystal present. Recrystallizing from chloroform does not seem to alter the characteristic shape of crystals of Aspirin or any of the acetylo-salicylic acids products. In fact recrystallization is very valuable in identifying the salt if it is powdered very fine causing the characteristic shape of the crystals to be lost. I do not mean to imply that the crystals of all the acetylo-salicylic acid products are alike; in fact there are marked differences easily detected by microscopical methods, but after numerous trials with a variety of samples I found it comparatively easy to specifically identify Aspirin from any of the acetylo-salicylic acids. As a chemical test is of no value in establishing the identity and as the microscopical test is apparently specific and always accurate, it is very valuable when there is any controversy over the identity of the sample claimed to be Aspirin by a dealer and otherwise by the manufacturer of Aspirin.

It will be interesting for any druggist possessing a microscope to try these simple tests. I find a two-third lens to be the one best adapted for the test. The crystals may be examined dry, or a slide can be quickly and easily made by placing a few crystals on a slide, adding a drop of water and then placing the cover-slip.

It will possibly be of some interest to give a short history of Aspirin, its chemical structure, mode of manufacture, and patent rights. Gerhart in 1853 first produced acetylo-salicylic acid, using acetyl chloride and sodium salicylate. Kraut in 1869 studied the compound very closely and designated it acetylo-salicyclic acid and also gave a method for its isolation and manufacture. The publication of his work on the compound was the fundamental reason that the Aspirin patent rights were not sustained in England. Aspirin was patented in England in 1898 and in the United States in 1900. The English patent was not upheld when a suit was instituted by the manufacturers against an alleged infringer in 1905; so acetylo-salicylic acid has been sold legally in England since

that time. In a similar suit in this country (Eastern District, Northern Division of the Circuit Court of Illinois with Justice Sandborn presiding, 1909), the patent rights were upheld; therefore in America it is illegal to sell acetylo-salicylic acid for Aspirin when such is asked for or prescribed.

Acetylo-salicylic acid and Aspirin are made by treating salicylic acid with acetic anhydride at a temperature of 150 C., by means of a reflux condenser. On a large scale it is made in an auto-clave. It is purified by recrystallization from chloroform. The waterless process is claimed by Hoffman (Bayer) to be the base of his patent rights. Chemically Aspirin is an acetyl derivative of salicylic acid, having the formula $C_6H_4OCOCH_3COOH$, the acetyl group replacing the H of the OH group of salicylic acid, which has the formula $C_6H_4OHCOOH$.

It is also of interest to trace the origin of the trade name of Aspirin. For many years salicylic acid was obtained from many plants containing salicylic aldehyde, which on oxidation gives the acid. One of these plants is known botanically as Aruncus Spiroea and is generally abbreviated A. Spiroea, which differentiates it from other species of Spiroea. Placing the abbreviation before the name Spirœa we have "Aspirœa." We only have to change the last part of the word into the ending "in" and we have the trade mark aspirin. The name as we can readily see, is very ingenious.

Many cases of poisoning by Aspirin have been reported but in practically all the cases the medical authorities have reported them due to idiosyncrasy to salicylic acid in any form it may be prescribed. Such cases cannot be anticipated or explained. Aspirin is said to give better results if taken in powder or capsule form, accompanied by a large glass of water. Tablets are not desirable. It should never be given on an empty stomach but should be taken after meals. Alkalies or alkali waters should not be taken simultaneously. If the stomach lacks acidity, a little lemon juice may be taken before use. Aspirin dissociates either in water, or acid or alkali solutions in the stomach or in the intestines. As affects the kidneys, they should be carefully

watched during prolonged dosing. Aspirin is insoluble in water and should not be prescribed when water is present unless the mixture is to be taken in the course of a few hours, since the water causes the Aspirin to dissociate into acetic and salicylic acids; consequently the patient will be taking a mixture of these two acids instead of Aspirin if the mixture stands long enough for complete dissociation. I have known druggists to suggest the addition of sodium bicarbonate to facilitate the solution of Aspirin. A solution is obtained very readily; this solution however is not of Aspirin but of sodium acetate and salicylate. To obtain the best results Aspirin should never be administered except in the dry state.

AUTOGENOUS VACCINES

S. B. HIGGINS, Class of 1915

Shall the pharmacist follow the beaten path that his predecessors have pursued for many years, or will he open his eyes and see the opportunities that would tend to make him a more independent man, and not merely a medium through which the drugs and preparations of the jobbers and manufacturers reach the public?

The chemist of today is advancing new theories which make him more independent and place his profession on a higher plane. He has charge of the drug and chemical manufacturing houses and in this way the pharmacist is dependent upon him. Why should not the pharmacist so prepare himself that he may be independent of the manufacturer?

There are many new branches of science that the druggist may pursue, one being the preparation of autogenous vaccines. The druggist and the physician co-operating together can easily prepare these vaccines without being altogether dependent upon the manufacturing houses. In so doing the druggist will greatly benefit his store and pharmacy as a profession, as well as being of service to the community.

These autogenous vaccines may be prepared by the following method: first, the bacteria are obtained from the patient by different methods; in case of carbuncles and pus-forming diseases, the pus is obtained in a sterile container and the bacteria therein are allowed to grow in sterile bouillon for a specified time and then killed by heating, and suspended in physiological salt solution. This standardized vaccine is now injected back into the patient from whom the bacteria were obtained. The dead bacteria are incapable of causing disease, but when injected into the body they stimulate the production of protective substances (anti-bodies) specific for the bacteria causing the disease. The anti-body formation is greatly in excess of that needed to eliminate the bacteria injected, and the surplus enters the blood and other body fluids, affording

an efficient means of protection or in bringing about improvement in pathological infections already present.

As to the administration of autogenous vaccines, vaccines are injected subcutaneously, intravenously, and intramuscularly. Strict asepsis must, of course, be observed. In subcutaneous injection, the procedure is that of ordinary hypodermic injection. In this method the absorption of the vaccine is comparatively slow, which delays the full action of the serum. By injecting directly into the blood stream (intravenously) the maximum anti-body concentration is obtained immediately. It is recommended by many authorities that this method be always resorted to when the condition of the patient is critical and delay is dangerous.

Three to five gradually increased doses are administered at intervals of three to seven days.

Autogenous vaccines have advantages over the regular vaccines in that they produce anti-bodies specific for the bacteria causing the disease, while the other vaccines may contain several different bacteria and also foreign material and will not produce specific anti-bodies. Diphtheria anti-toxin, which is a serum that consists of the blood from an immunized horse, sometimes produces a serum sickness, known as anti-pholaxis, if too large a dose is given. This sickness is due to the foreign protein in the horse's blood. In case of autogenous vaccines no foreign material is present.

Will the pharmacist co-operate with the physician and manufacture these vaccines, or will he continue in his slumber and let the manufacturer prepare them?

THE WILLIAM SIMPSON PHARMACEUTICAL SOCIETY

R. H. ANDREWS, Ph. G.

This society was organized by the class of 1913 through the efforts of Professor J. G. Beard. It was named in honor of the late William Simpson of Raleigh, a pioneer druggist and teacher and one time president of the American Pharmaceutical Association. The officers elected by the class of 1913 were: J. P. Cordon, president; W. S. Wolfe, secretary; Paul Brantly, Treasurer.

The purpose of the Society is to stimulate original research work in the Pharmacy School of the University and to present the result of the investigations in the form of papers which are read by the members at the weekly meetings. Debates are held on subjects of interest to pharmacists. By this means the pharmacy students are encouraged to be progressive and well posted on modern subjects.

The work of the Society has been very gratifying. The students as a class enter into the work of the organization with much enthusiasm, and many instructive and interesting papers have been presented. The future, we believe, holds great promise for the Society. The officers for the present year are: F. J. Andrews, president; N. L. Beach, secretary; L. R. Wilson, treasurer.

PERSON HALL

Person Hall, now occupied by the Pharmacy School of the University of North Carolina, is a well-lighted, well-ventilated, commodious, convenient building, situated in the center of the campus next to the Carnegie library and facing the Alumni Building.

Person Hall was originally used as a home for the Chemistry Department, and later for the Medical School. The Pharmacy School was moved into the building during the summer of 1912. The Hall contains three lecture rooms, four laboratories, a prescription room, a well selected library, a coat and hat room, and an office. One side of the building is composed largely of glass. This gives ideal light for the laboratories and allows of plenty of sunshine in the rooms.

ALUMNI NOTES

E. J. Barker, 1912, owns a drug store at Rowland.

K. E. Bennett, Ph. G. 1912, owns a store at Bryson City.

W. L. Wetzell, Ph. G. 1909, is a practicing pharmacist in Gastonia.

H. M. Gaddy, Ph. G. 1910, is with J. C. Brantley & Co. of Raleigh.

B. C. Toms, 1911, is with the Brame Drug Co. of Winston-Salem.

R. C. Harville, 1909, is proprietor of Harville's Drug Store, Thomasville.

L. B. Mullen, Ph. G. 1909, is in business with his father at Huntersville.

M. O. Peacock, 1910, is manager of the Peacock Drug Store in Benson.

Wiltshire Griffith, Ph. G. 1908, is with the Rose Pharmacy of Hendersonville.

H. L. Pope, Ph. G. 1908, is president of the Pope Drug Company, Lumberton.

L. Gilbert, class 1904, is manager and part owner of the Benson Drug Co., Benson.

F. H. Lunn, Ph. G. 1913, is located with the Brame Drug Company, Winston-Salem.

S. E. Welfare, 1916, is proprietor of the Welfare Drug Company of Winston-Salem.

R. M. McArthur, Ph. G. 1908, is proprietor of McArthur's Drug Store of Winston-Salem.

Charles M. Andrews, Ph. G. 1907, is proprietor of the West End Drug Store, Hillsboro.

David Heath, 1914, holds a responsible position with Phillip's Drug Store in Rock Hill, S. C.

L. E. Hesterly, Ph. G. 1911, is head prescription clerk in the Justus drug store of Hendersonville.

R. H. Andrews, Ph. G. 1914, is working for his doctor's degree in the University School of Pharmacy.

Hugh A. Griffin, Ph. G. 1909, has disposed of his store in Rocky Mount and is now selling life insurance.

M. A. Porro, Ph. G. 1910, is in his native town of Camaguey, Cuba, where he owns a handsome drug store.

T. E. Landquist, 1900, is part owner and manager of the Shaffner-Lanquist Drug Company, Winston-Salem.

G. S. Blackwelder, a student in the class of 1912, has returned to the University to complete his Ph. G. course.

Julius Eldridge, 1901, is vice-president of the Brame Drug Company, a wholesale and retail drug house in Winston-Salem.

H. R. Kyser, 1911, is another deserter of the ranks. He is practicing law at Thomasville. Mr. Kyser was married in 1912 to Miss Nan Zollicoffer of Weldon.

J. A. Hutchins, class of 1910, is proprietor of the Hutchins' Drug Store of Winston-Salem. Reports from there indicate that his business, which is still young, is growing rapidly.

"Bunn" Hearn, 1911, has deserted pharmacy and is a baseball player on the Pittsburgh Club of the Federal League. "Bunn" says he prefers "hitting the pill" to "rolling a pill."

J. B. Whittington, Ph. G. 1908, M. D. *Charlotte Medical College* 1912, is practicing medicine in Winston-Salem. Dr. Whittington was laboratory assistant during his senior year at the University.

I. W. Rose, Ph. G. 1906, owns a handsome store at Rocky Mount. Mr. Rose was laboratory assistant while at the University and author of a very complete manual of Synonyms which is now used in the Pharmacy 8 classes of the college. Mr. Rose was elected by the North Carolina Pharmaceutical Association as a member of the North Carolina Board of Pharmacy. He holds the pharmacy section of the Board examinations.

STRAY ITEMS

The Turkish Sultan is quoted as saying, "Luck is infatuated with efficiency."

All the drug stores in Durham were closed during the Carolina-Virginia baseball game April 12th. It is unusual to hear of all the druggists in a town the size of Durham closing for a game.

The Spatula Club of the University School of Pharmacy was granted a charter in the Kappa Psi Fraternity the latter part of April. This national fraternity is both pharmaceutical and medical and is recognized as one of the leading professional orders.

The Senior class at the University gave the annual "senior stunt" during Junior Week. The title was "The Pill." The advance posters described the "stunt" as "A Pharmaceutical Preparation Perpetrated upon the Playgoing Public."

What do you do with the holes in your day—those little periods of five minutes, ten minutes, fifteen minutes—waiting for an appointment, waiting for your car, waiting for luncheon, et cetera? Fill in these little chinks, and you will be surprised at what can be accomplished.

The Blacknall Drug Company, whose business home was burned during the disastrous fire in Durham in March of last year, has reopened a store in a building recently erected on the same lot. New and modern fixtures have been placed and the store compares very favorably with the handsomest drug stores in the State.

The ninth decennial revision of the United States Pharmacopœia will be likely ready for distribution by the first of August. There have been a number of changes made in the book which have caused delay in the work of the various subcommittees. Professor Joseph P. Remington, Chairman of the Committee on Revision, is responsible for the above statement.

Every druggist should keep in an attractive box, properly labeled and displayed, a set of antidotes, with doses of each antidote, and the methods of administration. Customers would be certain to notice such an exhibit if it were kept in a conspicuous place and would be impressed. This kind of advertising is always well worth while.

Walter H. Cousins, known as the George Ade of pharmacy, whose interesting articles on various live topics have been appearing in *The Practical Druggist* during the past five years, has sold his interest in the Palace Drug Store at Wichita Falls, Texas, and purchased from E. G. Eberle *The Southern Pharmaceutical Journal*. The transfer took place the beginning of April.—*Practical Druggist*.

Fra Elbert Hubbard in the March issue of *The Philistine* very vigorously defends saccharin as a substitute for sugar. He denies that this substance is harmful as a sweetening agent; in fact he contends that it is superior to sugar. Fra Hubbard in introducing the subject of saccahrin says: "It (saccharin) was given a long chemical name, harder than a frozen lollypop, which goes like this—Benzol-Sulfonic-Imide. But after all this jaw-breaker is only ordinary black coal which has been chemically trained to jump through a hoop. Or as Ali Baba says, 'Coal chucked full of higher l'arnin' and awarded a sheepskin diploma.'"

EDITORSHIP OF THE A. PH. A. JOURNAL GOES TO PROFESSOR E. G. EBERLE, OF DALLAS, TEXAS

Recent reports announce that Professor E. G. Eberle of Dallas, Texas, founder and editor of the *Southern Pharmaceutical Journal,* is to be made permanent editor and general secretary of the American Pharmaceutical Association, by appointment on the part of the Committee on Publication.

This is good work on the part of the committee, as Professor Eberle is well qualified from from every viewpoint. His prominence in the pharmaceutical world, as educator, instructor, writer and publisher is within itself a guarantee of his ability and reliability for the position with which he has been honored.—*National Drug Clerk.*

NUMEROUS AND VORACIOUS

Although man has attained predominance over the most fierce and powerful animals and most deadly reptiles, he and his works, contends Mr. Buckland, in a paper in the last Smithsonian Report, would be of little avail before an attack of insects, which include a greater number of species than all other living creatures combined. About 300,000 species have been described, while possibly twice that number still remain unknown. These incomputable hordes feed on nearly all living animals and practically all plants and multiply into prodigious numbers in an incredibly short time. Computations show that one species developing thirteen generations a year would if unchecked to the twelfth generation multiply to ten sextillions of individuals, while a single pair of the well known Gypsy moths if unchecked would produce in eight years enough progeny to destroy all the foliage of the United States. One pair of potato bugs, he asserts, would develop unchecked 60,000,000 in a single season, at which rate of multiplication the potato plant would not survive long.

According to Mr. Buckland insects are quite as astounding in their consuming qualities as in their rate of increase. A caterpillar eats twice its weight in leaves a day, and in propor-

tion a horse would consume a ton of hay in twenty-four hours. Certain flesh-eating larvæ consume 200 times their original weight in twenty-four hours. In this manner an infant would devour 1,500 pounds of meat during the first day of his life. It is reported by a specialist that the food taken by a silkworm in fifty-six days equals 86,000 times its original weight. All of these facts show what tremendous destruction insects may cause.

PERSONALS

John Beatty has been elected manager of the Beatty Drug Co. of Charlotte.

Fred Thomas of West Durham, has recently purchased a large Haynes touring car.

Mr. C. Wolfe owns the only drug store in Waxhaw, a community of one thousand people.

Henry Allison, formerly with the Hospital Supply and Drug Co., is now with Burwell & Dunn Co., of Charlotte.

John E. Marion of Granite City, for some time manager of the Gwyn Drug Company, has bought the business of Hawkes Drug Company.

Claude Herndon has recently opened a neat and attractive pharmacy in Greensboro on the corner of North Elm and West Gaston Streets.

Frank S. Smith of Asheville was awarded a $25 prize by the Rexall Company for a talk he made before the Rexall druggists of North Carolina assembled in Salisbury.

Mr. H. G. Coleman of Durham is responsible for the statement that twenty-five grains of camphor dissolved in a fluid ounce of chloroform affords certain relief for asthma.

E. W. O'Hanlon of Winston-Salem, is building a skyscraper as a new home for his drug business. Mr. O'Hanlon's store was destroyed by fire several years ago, and since that time he has been conducting his business on the corner of Main and Third Streets. The new building occupies the same site as did the building which was burned.

Messrs. Coleman and Walker are the proprietors of the Main Street Pharmacy in Durham. These young men have spent much time and money in bringing their store up to its present state of convenience and beauty. Mr. Walker told the editor of a very amusing incident that happened in the store a short time ago. It seems the porter, an Ethiopian, was drawing some Coco Cola from a barrel in the syrup room and was stooping over the container. The process disturbed a full gallon jug of chocolate on a shelf about ten feet directly over the porter's head and it tipped over and off the shelf. Gravity exercised its usual pull and the jug noiselessly descended on the negro's head. Two hard objects had come together—the jug burst. The negro imperturbed remarked in a very disgusted tone, "That durn crock must 'er been rotten."

Dr. Charles H. Herty, Dean of the Chemistry Department in the University of North Carolina and President of the American Chemical Society, delivered an address before the William Simpson Pharmaceutical Society the latter part of March. His subject was "The Effect of the European War upon Pharmacy and Chemistry." Dr. Herty has just returned to Chapel Hill from New Orleans where he presided over the semi-annual convention of the American Chemical Society. He says there is not as yet any shortage in dyestuffs in America. In the seven months ending January, 1915, the imports of coal tar dyes were $1,025,622 greater than for the corresponding seven months ending January, 1914, and $504,686 greater than January, 1913. Or the 1915 values are 119 per cent of the 1914 values and 109 per cent of the 1913 values. This is indeed significant! "With the equally insistent complaint of slow business in colored textiles is there not some room for the suspicion that somebody is hoarding dyes?"

The editor has received a letter from Mr. William Niestlie of Wilmington, concerning the late William Simpson of Ral-

eigh. Feeling that Mr. Niestlie's reminiscences will be of interest to our readers, we reprint his letter in full.

"My first acquaintance with William Simpson was in February, 1886, when I went up to Raleigh to take the State Board examination. I went into Mr. Simpson's store and noticed four young men talking to him. He seemed very kind and considerate to them and to me as I later discussed the coming examination with him. At first, however, he took me for a customer and asked me in his fine courteous way what he could do for me. I told him I had come for the Board examination. Speaking to us all he said, 'Boys you have a hard road to travel, but don't worry or lose any sleep tonight.' The next morning when we applicants met at his store we were informed that as only two members of the Board had arrived we would have to wait until the next day to take the examination. Mr. Simpson expressed his regret that we should be delayed and gave us cards of introduction so that we could be admitted to the different places of interest around and in Raleigh. I asked him if I could go to the Penitentiary. He laughed and said 'yes', but wanted to know if I were not afraid I couldn't get out to take the examination. The next morning the other members of the Board had not yet arrived and I told Mr. Simpson I wanted to go to the Insane Asylum. This seemed to amuse him very much. He laughed and said, 'You certainly are a new one to deal with, first the Penitentiary, and now the "bug house.'

"After a trip to the Asylum, I returned to his store. He was busy behind the prescription case, and I asked him if I might help him. He was quite pleased to have my assistance and we talked much together. The examination was held next day. Mr. Simpson was Master of the quizzing which was oral altogether and lasted for five hours, from nine until two. Each boy was examined separately. I was the only one of the five applicants to pass the examinations. There were a great many practical questions asked.

"Mr. Simpson often came to Wilmington as he was very fond of the salt air. I had many pleasant talks with him.

"William Simpson has gone into the Great Beyond but he is not forgotten by the old-timers. We can write in conclusion:

"His life work was done,
His race run,
His crown won.
At rest, 'till the last roll call for all of us.

Sincerely,
WILLIAM NIESTLIE."

DIRECTORY OF SOUTHERN SCHOOLS OF PHARMACY

Detailed information concerning any school listed below will be furnished upon application to the JOURNAL

Location	Name of School	Name of Dean, President or Chairman	Teachers	Students	Degrees	Graduates in 1914	Years in Course	Tuition Fees
Auburn, Ala.	Alabama Polytechnic Institute, Department of Pharmacy	L. S. Blake	15	45	Ph. G. Ph. C.	2	2 3	$ 67.00*
Birmingham, Ala.	Birmingham Medical College, Department of Pharmacy	A. R. Bliss, Jr.	11	55	Ph. C. Ph. G. Phar. D. B. S. in Ph.	25	2 2 3 4	90.00
Mobile, Ala.	University of Alabama, Department of Pharmacy	E. D. Bandurant	8	6†	Ph. G.	2†	2	90.00
Washington, D. C.	National College of Pharmacy, George Washington University	H. E. Kalusawski	10	60	Phar. D.	11	3	85.00
Athens, Ga.	University of Georgia, School of Pharmacy	Robert C. Wilson	10	22	Ph. G.	7	2	75.00
Atlanta, Ga.	Atlanta College of Pharmacy‖	George F. Payne	6	178	Ph. G.	50	2	65.00
Atlanta, Ga.	Southern College of Pharmacy	R. C. Hood	7	150	Ph. G.	———	2‡	80.00
Macon, Ga.	Mercer University, School of Pharmacy	C. A. Struby	11	48	Ph. G. Ph. C.	11	2 3	85.00
Louisville, Ky.	Louisville College of Pharmacy§	G. L. Curry	7	61	Ph. G.	———	2	85.00
New Orleans, La.	New Orleans College of Pharmacy	Philip Asher	7	41	Ph. G. Ph. C.	20	2 3	85.00
New Orleans, La.	Tulane University, Department of Pharmacy	Isadore Dyer	20	7	Ph. G. Ph. C. Phar. D.	1	2 3 4	90.00
Baltimore, Md.	University of Maryland, Maryland College of Pharmacy	Chas. Caspari, Jr.	10	76	Ph. G.	24	2 3	100.00
University, Miss.	University of Mississippi, School of Pharmacy	H. M. Faser	9	47	Ph. G. Ph. C.	———	2 3	70.00
Charleston, S. C.	Medical College State of S. C., Department of Pharmacy	Robt. Wilson, Jr.	9	30§	Ph. G. P. D.	19§	2 3	75.00
Memphis, Tenn.	University of Tennessee,§ School of Pharmacy	E. F. Turner, Reg.	8	19		6	2 3	100.00
Memphis, Tenn.	University of West Tennessee,§ College of Pharmacy	M. V. Lynk	4	9		3	3	40.00
Nashville, Tenn.	Vanderbilt University, College of Pharmacy	E. A. Luddiman	14	40	Ph. C. Phar. D.	14‡	2 3	105.00
Richmond, Va.	Medical College of Virginia, School of Pharmacy	A. Balenbough	8	71	Ph. G. Ph. C.	25	2 3	100.00
Chapel Hill, N. C.	University of North Carolina, School of Pharmacy	E. V. Howell	21	61	Ph. G. P. D. Ph. C.	3	2 3	85.00

* $ 47.00 to residents of the State.
† 1913.
‡ Each year six months. Possible to graduate in one year.
§ 1911.
‖ 1912.
¶ Six months in each session.

THE UNIVERSITY OF NORTH CAROLINA

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President of the University of North Carolina

Ph. B., University of North Carolina, 1898; Librarian, 1899; Instructor in English, 1899-1901; Associate Professor of English, 1901-1904; A. M., Columbia University, 1902; Student, *ibid.*, 1904-1905; Professor of English, University of North Carolina, 1904—; Dean of the College of Liberal Arts, 1909-1913; Acting President of the University, 1913-1914; President since 1914.

The
Carolina Journal *of* Pharmacy

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J. G. Beard, *Editor-in-chief* R. A. McDuffie, *Business Manager*

EDITORIALS

The editors feel very gratified at the kind reception accorded the first issue of the Carolina Journal of Pharmacy, as evidenced by the large number of encouraging letters which were received, and by the praise accorded the Journal by the members of the North Carolina Pharmaceutical Association expressed at the Durham convention. We confess that we entered this field with a great deal of fear lest the magazine prove a failure. The management is now encouraged to believe that the Journal will fill a long felt need in this state for an organ of publicity for the North Carolina druggists.

The August issue is devoted largely to the interests of the North Carolina Pharmaceutical Association.

RECIPROCITY

On another page of the Journal the reader will find outlined a comprehensive sketch of the reciprocity situation in the southern states. This sketch shows that neither North Carolina nor South Carolina reciprocates licenses with any other state in the Union. Many arguments are advanced for and

against reciprocity. It is not for the JOURNAL to say whether or not this exchange is the proper thing for the North Carolina Board of Pharmacy to have, for the pro and con evidence is too weighty on both sides for anyone to decide definitely at this time just what it is best to do.

There are now 32 states that are active members of the National Association of Boards of Pharmacy, and each of these states will exchange licenses with the other. However, it is perfectly obvious that in this large number of states, the examinations will differ widely in their scope, one state having very exacting requirements, and another being rather lax. As President Zoeller of the North Carolina Board of Pharmacy said at the last meeting of the Pharmaceutical Association, an applicant might take the Board of Pharmacy examination in his home state and be unsuccessful. He then might go to a neighboring state, and pass an examination much simpler, less comprehensive, and one not requiring any extraordinary amount of pharmaceutical knowledge. Possessed of his license from this state, he could go back home, and after making the proper application, would be a full-fledged druggist. This, it would seem, defeats the object of a thoroughly comprehensive examination.

There are several reasons why North Carolina is not an active member of the N. A. B. P., although it is an associate member.

Perhaps in the course of a few years there will be more uniformity in the examinations of the several states, but at present this seems to be too hopeful an outlook for a situation that sadly needs improvement. Of course, all the Boards of Pharmacy are gradually raising the standards of their examinnations, but the relative differences continue, and doubtless will continue the same. The JOURNAL would like to have reciprocity discussed in its columns by the druggists of the state.

THE A. PH. A. MEETING

An excellent opportunity will be furnished the druggists of this state to join the American Pharmaceutical Association,

should they take their annual holiday in a trip to the San Francisco Exposition, since the American Association meets in that city, August 9-14. The 63rd annual convention of this old and established association will offer druggists an opportunity of meeting and hearing the biggest authorities in the profession of pharmacy, of exchanging ideas and views with men who can perhaps give them many new points and valuable information, and by joining this body, of lending their weight in advancing, through the unified work which this national body can do, the cause of pharmacy throughout the United States.

Anyone desiring membership in the A. Ph. A. will kindly communicate with the editor of the Journal, and an application will be forwarded immediately.

PROFESSIONALISM

On another page of the Journal will be found a very interesting and profitable paper read at the recent meeting of the Kansas Pharmaceutical Association by Dr. C. F. Nelson, the title of which is "A Proposal for the Elevation of the Profession of Pharmacy." This paper dilates upon a similar paper in the May issue of the Carolina Journal of Pharmacy, by S. B. Higgins, a graduate from the University of North Carolina School of Pharmacy in 1915. It is earnestly hoped that all pharmacists will read this article by Dr. Nelson, for it undoubtedly presents a solution of a much debated question. There are very few druggists in North Carolina who could not, after some study, equip themselves to carry out the analytical work proposed.

THE STATE PHARMACEUTICAL ASSOCIATION

We often wonder why it is that so small a per cent of the pharmacists of the country are affiliated with any kind of a pharmaceutical organization. One constantly hears the wailing note struck concerning poor prospects and conditions in the drug store life of today, yet how seldom does one hear of an individual proposing to lend his aid toward improving the

present state of affairs. There is only one solution to this highly important question, and that solution is simple—*the druggists must get together—must co-operate*—for it is only by means of unified endeavor that we can realize the better things we hope for. The druggists in North Carolina have an old and established organization, the North Carolina Pharmaceutical Association, which has the power, if it be representative, of improving wonderfully the profession of pharmacy in this state. There are many reasons why this association should number among its members all the reputable druggists of the state, and absolutely no reason why a pharmacist should remain unaffiliated with his only co-operative institution. The Association has never had a brighter outlook than it has today. Its president is one of the most progressive professional-commercial men in North Carolina, and he proposes to use every effort at his command, and he will be supported by the Association, to bring together the pharmacists into a unified whole, and by a harmonious movement representing the desires of all, not a few, he will undoubtedly go far in the service of his comrades.

The North Carolina Pharmaceutical Association has just rounded out its 36th successful year as a co-operative association, organized to promote and advance the profession of pharmacy, to encourage sociability among its members, and to prevent the enactment of restrictive and obnoxious legislation. The trend of modern business in every line is towards co-operation, and is today the only salvation of the independent retail druggists. Associations are like corporations: dividends are apt to be in proportion to the investments; small investments mean slight returns. Although the Association is accomplishing much for the druggists of the state, the benefits and services to be gained by the members might be greatly increased, if only the druggists of North Carolina were more loyal to their Association, and would make an investment, not only of the two dollars which represents the yearly assessment for membership, but also a small part of their time in taking an active interest in the affairs of the Association, attending

the meetings, lending their assistance in increasing the membership, and would thus make this a greater and a more influential organization. There has never been a time in the history of pharmacy when organized endeavors were more needed than at the present. The flood of meddlesome legislation, the increase of chain-store menace, unfair competition and cut-price merchandising, false and misleading advertising, the exploitation of fake nostrums, and the many similar evils that have sprung into existence in the past few years, demand vigilance and aggressiveness on the part of pharmacists, and the best thought of the most capable and resourceful in the profession. This work can be best accomplished through the officers and committees of the State Association, but necessitates a sacrifice of much time, the employment of competent advisors, and the co-operation and assistance of the members at large.

There are at the present time over nine hundred registered pharmacists actively engaged in the drug business in this state, and of this number only twenty-five per cent have indicated by enrolling as members and contributing their yearly assessment to the North Carolina Pharmaceutical Association, that they are willing to shoulder their share of the burden entailed in the careful and proper oversight of legislation affecting their life work. Therefore the Journal would urge those who are members, to boost their organization and assist in every way possible to make its sphere of usefulness as broad as it could be, and to lend their part toward the realization of the Association's slogan, "500 in 1916." To the six hundred and fifty druggists still without the fold, the Journal appeals to them to show their loyalty to their profession by joining their Association.

The North Carolina Pharmaceutical Association has been in existence for thirty-six years and is just now beginning to get into its stride. To those druggists who are not members of this organization, who claim that it is not worth while joining, and who seem to doubt the necessity for such a body, it can be said that the Pharmaceutical Association in this State has greater possibilities than any one institution in North Carolina

pharmacy, and is going to prove itself a mighty power within the next few years.

For thirty-six years the Association has been running along in a smooth even way, not rapidly but gradually gaining strength, and in an unostentatious but determined way has been fighting the battles of pharmacy.

The Pharmaceutical Association in this State had its inception in the minds of a few Wilson druggists in 1880. These druggists were Messrs. Moye, Nadal, Rowland, Peacock, and Hargrave. These men were instrumental in drawing together about one hundred pharmacists from all parts of the state who met together in Raleigh, August 11, 1880, for the purpose of forming a union of pharmacists and druggists. Mr. E. M. Nadal of Wilson was elected president of this assemblage, which was later incorporated as the "North Carolina Pharmaceutical Association." Other officers elected were S. J. Hinsdale, Fayetteville, William Simpson, Raleigh, E. H. Meadows, New Bern, Vice-Presidents; Dr. T. C. Smith, Asheville, Secretary; J. S. Pescud, Raleigh, Treasurer. (Messrs. Hinsdale and Simpson, in the order named were the next presidents.) The object of the Association was to "unite the pharmacists and druggists of the state for mutual aid, encouragement and improvement, to encourage scientific research, develop pharmaceutical talent, to elevate the standard of professional thought, and ultimately restrict the practice of pharmacy to properly qualified druggists and apothecaries."

From that year to this present one, when the Association through its officers was responsible for having passed the law requiring that after January, 1918, all applicants to practice pharmacy must be twenty-one years of age, have had four years practical experience, and shall have completed a nine months' course in a reputable school of pharmacy in addition to standing an examination, the organization has been a guiding and driving force in bettering drug conditions in North Carolina. The personnel of the Association has always been high, the majority of the members being among the leading druggists of the state. Those who have not joined have failed

to do so from one of two causes: either they do not know of the many advantages which membership offers, or else they have never been in a convenient position to join. The association represents in and out of the state the sentiments of the state's druggists. The pharmacists as a class are judged by the acts of the Association. If the non-members are not satisfied with the trend of affairs it is decidedly to their interest and to the interest of the Association that they join and lend their influence in making matters assume another tone.

Pharmacy is more loosely organized than is any profession in our state, or almost any trade for that matter. Only twenty-five per cent of the registered pharmacists *are even supposed to be organized.* Of this twenty-five per cent who belong to the Pharmaceutical Association, less than one-half attend the meetings, or take any apparent interest in the working of their organization. Roughly speaking twelve per cent of the druggists of the state are responsible for or burdened with—all concerted action pertaining to advancing the profession. Eighty-eight per cent stay at home, too busy or too indifferent to take a part in the Association's work. And if the Association does something they do not particularly fancy, something affecting their interests, a number of them will raise a hue and cry about "bossism," "ring-rule," "non-representative action," etc., etc. They blind themselves, and think they are fooling others, into the belief that they are being run over roughshod by a handful of unresponsible druggists, or else druggists selfish in advancing their own interests. It is the privilege and duty of every registered pharmacist in North Carolina to join his Association, and not only join but attend the meetings, take a hand in the proceedings, look after his own interests, and contribute his share towards improving existing conditions by united action. If after this were done by the large majority and conditions failed to be bettered, working hours remained too long, price-cutting still obtained as an evil, Sunday closing not realized, the standard of clerks not raised, and the spirit of harmonious co-operation failed to materialize, it would then be time to despair of our Association

and of our profession. This state of affairs would not result however. Matters would improve very decidedly and rapidly if this eighty-eight per cent class were to join the Association and lend a hand in bringing conditions up to every one's idea of what conditions in pharmacy ought to be. The Association would then literally represent the druggists as a mass and as a class, collectively and individually. It could secure the passage of any reasonable laws it cared to frame; it could prescribe the working hours which stores could have, in this way assuring each proprietor that his competitor would observe the same hours as he himself, and preventing any uneasiness that trade is being attracted to another's store; it could regulate or control prices throughout the state; it could say to manufacturers who charge the retailers more than is equitable or just, "we refuse to handle your products until you allow us a liveable margin of profit"; it could furnish to its members the most advanced and improved ideas of its one-thousand-membership, and it could do many more things of a similar nature. Even as matters now stand the Association is doing a splendid work, but it is capable of doing a work so much greater. Won't you, Mr. Registred Druggist or Phramacist, send to the Secretary of the Association, J. G. Beard of Chapel Hill, your name on a slip of paper to which is pinned a five-dollar check or bill and ask to be enrolled as a member of the N. C. P. A.? This five dollars is for intitiation fees and one year's dues. Even if you cannot attend the meetings, your name and the sum you contribute in the form of yearly dues will prove a very material aid to the Association and you will in turn realize a handsome return upon your investment. Do this please before the matter escapes your attention.

HISTORIC

Believing that the information furnished below concerning the drug stores in North Carolina forty-five years ago will be of interest to both the older and the younger generations of pharmacists, the JOURNAL presents the names and locations of the drug stores in the State in the year 1870.

Alamance	H. B. Marley	Company Shops
Alexander	.....	
Alleghany	.....	
Anson	W. C. Ashe	Wadesboro
	E. A. Covington	Wadesboro
Ashe	.....	
Beaufort	C. M. Brown	Washington
	D. N. Bogart	Washington
	F. Gallagher	Washington
Bertie	.....	
Bladen	.....	
Brunswick	.....	
Buncombe	E. J. Aston	Asheville
	W. L. Hilliard	Asheville
Burke	.....	
Cabarrus	N. D. Fetzer	Concord
	J. P. Gibson & Bro.	Concord
	Joel Reed	Concord
Caldwell	.....	
Camden	.....	
Carteret	Allan Davis	Beaufort
	John F. King	Beaufort
Caswell	.....	
Catawba	.....	
Chatham	John A. Hanks	Pittsboro
Chowan	Hall & Hooper	Edenton
Cherokee	.....	
Clay	.....	
Cleveland	D. N. Durham	Shelby
Craven	R. Berry	New Bern
	R. N. Duffy	New Bern
	E. H. Meadows & Co.	New Bern
	J. L. Watkins	New Bern
Columbus	.....	
Cumberland	S. J. Hinsdale	Fayetteville
	H. R. Horne	Fayetteville
	Joseph N. Smith	Fayetteville
Currituck	.....	
Dare	.....	
Davidson	.....	
Davie	.....	
Duplin	.....	
Edgecombe	W. N. Howard	Tarboro
	L. L. Staton	Tarboro
	H. D. Teel	Tarboro

	Dr. H. R. Thorp	Rocky Mount
Forsythe	J. F. Shaffner	Salem
	A. T. Zevely	Salem
Franklin	Dr. J. B. Clifton	Louisburg
	J. B. Clifton	Franklinton
Gaston	Dr. W. N. Abernathey	Stanley's Creek
Gates	Woodey & Brady	Gatesville
Granville	T. D. Crawford & Co.	Oxford
	R. S. Mitchell	Oxford
	Dr. A. F. Osborn	Oxford
	P. W. Wyche, Drugs & Drygoods	Henderson
	Drs. S. D. & W. W. Young	Henderson
Greene	.....	
Guilford	R. G. & W. S. Callum	Greensboro
	R. W. Glenn & Son	Greensboro
	W. C. Porter	Greensboro
	W. D. Trotter	Greensboro
	A. B. Smith	High Point
Halifax	R. W. Brown	Weldon
	Hunter & Son	Brinkleyville
	H. A. House	Gaston
	Dr. H. E. T. Manning	Weldon
	Drs. Perkins & Johnston	Darlington
	J. B. Tyree & Co.	Wingwood
Harnett	.....	
Haywood	.....	
Henderson	.....	
Hertford	.....	
Hyde	.....	
Iredell	W. F. Hall	Statesville
	W. S. Tate, Dentist	Statesville
Jackson	.....	
Johnson	.....	
Jones	John Whittey	Pollocksville
Lenoir	Henry Dunn	Kinston
	Dr. J. W. Hardy	La Grange
	A. J. Pollock	Kinston
	W. A. Pollock	Kinston
Lincoln	J. M. Laning	Lincolnton
Macon	.....	
Madison	.....	
Martin	.....	

McDowell	.....	
Mecklenburg	Kiligan & Cureton	Charlotte
	J. H. McAden	Charlotte
	Wilson & Blake	Charlotte
	F. Scarr	Charlotte
	Smith & Hammonds	Charlotte
	Wilson & Black	Charlotte
Mitchell	.....	
Montgomery	.....	
Moore	J. R. Brown & Co.	Carthage
Nash	Dr. H. R. Thorp	Rocky Mount
New Hanover	S. Boyles	Wilmington
	Greene & Flanner, Market Street	Wilmington
	Cor. Bladen & 4th	Wilmington
	W. W. Lane	Wilmington
	McIlhenny & Wright	Wilmington
	Mebane & James	Wilmington
	J. L. Wooster	Wilmington
North Hampton	.....	
Onslow	.....	
Orange	Hugh Durham	Durham
	Thos. Emery	Chapel Hill
	O. Hooker	Hillsboro
	C. B. Green	Durham
Pasquotank	.....	
Perquimans	Dr. J. T. Smith	Hertford
	H. C. Stokes	Hertford
Person	.....	
Pitt	J. S. Taft	Greenville
Polk	.....	
Randolph	.....	
Richmond	Robbins & McDonald, Liq. & Drugs	Rockingham
Robeson	.....	
Rockingham	.....	
Rowan	Jas. H. Enniss	Salisbury
	T. F. Kluttz & Co.	Salisbury
	Edward Sill	Salisbury
Rutherford	John M. Crayton	Rutherfordton
Sampson	John Hill, Jr.	Clinton
Stanly	.....	
Stokes	.....	
Surry	.....	
Swain	.....	

Transylvania	.....	
Tyrrell	.....	
Union	T. M. Parks	Monroe
Wake	Doepp & Jones	Raleigh
	Pescud, Lee & Co.	Raleigh
	Williams & Haywood	Raleigh
	Dr. R. B. Ellis	Eagle Rock
Warren	A. Thomas & A. E. Bobbitt	Warrenton
Washington	.....	
Watauga	.....	
Wayne	J. M. Hunter	Goldsboro
	Kerby & Miller	Goldsboro
Wilkes	.....	
Wilson	.....	
Yadkin	J. M. Nicholson	Yadkinville
Yancey	.....	

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According to this list there were 91 counties in North Carolina in 1870 and 96 drug stores; slightly more than one store for every county. However, 49 of the 91 existing counties, or 58 per cent, *had no drug stores at all*. The population of North Carolina at that time was, in even numbers one million—one drug store for every 11,000 people. In 1915, the census figures are approximately 2,500,000 and there are about 650 drug stores. Consequently there is one store for every 3,846 people. Again, while the population was increasing somewhat more than two-fold in 45 years, the drug stores were increasing nearly sevenfold.

OFFICERS OF THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

Reading from left to right—top row: C. P. Greyer, Morganton, newly elected member of the Board of Pharmacy; J. G. Beard, Chapel Hill, re-elected Secretary; G. E. Burwell, Charlotte, re-elected Treasurer.

Bottom row: E. G. Birdsong, Raleigh, First Vice-President; G. C. Goodman, Mooresville, Retiring President; E. L. Tarkenton, Wilson, Incoming President

G. C. GOODMAN, Mooresville
Retiring President

E. L. TARKENTON, Wilson
Incoming President

THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

The thirty-sixth annual convention of the North Carolina Pharmaceutical Association was held at Durham on June 15th, 16th and 17th. The meeting was opened with prayer by Dr. J. J. Hurt. P. W. Vaughan, the popular local secretary of the Association, after extending to the visiting druggists a welcome on the part of the local druggists, introduced Mayor B. S. Skinner. E. L. Tarkenton, of Wilson, responded on the part of the Association to the Mayor's address.

Secretary J. G. Beard, of Chapel Hill, called the roll, which showed that a larger number of delegates than usual were in attendance.

President Goodman in his address considered the pharmaceutical events of the past year, and suggested a number of steps which he hoped the Association would take. Among other things, he strongly commended the Stevens bill and the Harrison law. He praised the members of the Traveling Men's Auxiliary for their earnest efforts during the past year upon

behalf of the Association. The secretary's report revealed a slight falling off in membership, but a general healthy condition of the Association. Thirty-six candidates were elected to membership at the conclusion of the reading of the report. C. D. Sedberry, of Fayetteville, chairman of the executive committee, who proposed the candidates for membership, had been largely instrumental in persuading them to join the ranks. The matter of a larger membership for next year was discussed at some length, and it was decided that a committee of three members be appointed to devise means of bringing more of the North Carolina druggists into the Association. President Goodman appointed on this committee, C. P. Greyer, of Morganton, G. E. Burwell, of Charlotte, and E. L. Tarkenton, of Wilson.

The Association went on record as favoring the Stevens bill, and readopted last year's resolutions to the effect that every member should do his utmost to secure the passage of this measure. F. W. Hancock, secretary of the board of pharmacy, announced that the James H. Beal membership prize had been awarded to A. L. Fishel, of Chapel Hill, for having the highest general average on the recent examinations of the Board of Pharmacy.

At the morning session held on June 16th, the following papers were read and discussed:

"Parcel Post and How I Made a Success of the Drug Business," by C. A. Raysor, of Asheville; "The Best Method of Getting the Physician to Prescribe N. F. Preparations," by William H. Blauvelt, of Asheville; "Kodaks and Kodak Supplies and News Stands for Drug Stores," by George Y. Watson, of Southport; "Commercial Pharmacy," by C. P. Greyer, of Morganton; "State Pharmacy Laws," by W. W. Horne, of Fayetteville; "Relation of the Physician and Pharmacist," by Burney S. Warren, of Greenville; "How to Stimulate a Sick Drug Business," by E. L. Tarkenton, of Wilson; "Is the Attendance at Most Pharmaceutical Meetings Due to Lack of Interest or Lack of Time?" by H. T. Hicks, of Raleigh; "The Retail Pharmacist and the Traveling Salesman," by P. W.

Vaughan, of Durham; "Why Some Pharmacists Don't Make More Money," by Sam E. Welfare, of Winston; "Deterioration of Pharmaceutical Preparations," by John L. Henderson, of Chapel Hill; "Advantage and Disadvantage of Buying in Large Quantities," by C. C. Seawell, of High Point, and "The Conflict Between Professional and Commercial Pharmacy," by J. G. Beard, of Chapel Hill.

At the evening session held on June 16th, the following officers were elected: President, E. L. Tarkenton, of Wilson; vice-presidents, E. G. Birdsong, of Raleigh; G. A. Matton, of High Point; and S. E. Welfare, of Winston-Salem; secretary, J. G. Beard, of Chapel Hill; treasurer, G. E. Burwell, of Charlotte; executive committee, C. J. O'H. Horne, of Greenville; C. L. Haywood, of Durham; P. A. Lee, of Dunn; Jesse Carter, of Aberdeen; and J. G. Beard, of Chapel Hill.

C. P. Greyer, of Morganton, was recommended to the Governor to fill the vacancy on the Board of Pharmacy.

The final session, held on the morning of June 17th, was devoted to installation of officers.

Among the entertainment features of the meeting were a dance given on the evening of the 15th, a barbecue dinner at Lakewood Park on the afternoon of the 16th, and a visit to the tobacco factories for which Durham is famous.

The next meeting of the Association will be held at Wrightsville on June 20, 21st, and 22nd, 1916.

DYESTUFFS

A. S. Wheeler, Ph. D.
Professor of Organic Chemistry in the University of North Carolina

The European war has brought the subject of dyestuffs very prominently before the public mind. The center of dye manufacturing has been in Germany and since the blockade of German ports by England the exportation of dyestuffs has ceased. The famine is acutely felt in England, the United States and in other countries. England has formed a company with many million dollars of capital to manufacture dyes and the cry has gone up in this country to the chemist to step forward and save the situation by making dyes at home. The idea seems to be that the question rests with our chemists and that they are to blame because we are not doing this already. But the question is much more complex. It is more a matter of finance. Will dye manufacturing pay in the United States? Certainly it would with the prevailing fabulous prices but these will disappear at the close of the war. Who can predict when that will come to pass? Meanwhile we must have dyes and a real development is already going on in this country. Among the fundamental raw materials needed are benzol and toluol. We have been wasting or burning these in the gases from our coke ovens but since they are of fundamental importance in the manufacture of explosives such as trinitrotoluol and picric acid, we are now seeing a big growth in the recovery of these dye products. This means that when the demand of the munitions factories decreases, we will have large quantities available for making dyes.

The development of so complicated an industry cannot be rapid. In Germany it is chiefly in the hands of four very large companies who work together in controlling output and prices. They sell goods in this country at lower prices than in Europe and so can keep down the growth of an American industry. If Congress can be induced to pass an anti-dumping act, it would be a great impetus to our manufacturers, because our Tariff laws are otherwise rather satisfactory. The American chemist is ready to do his part. That he is alive is shown by the success of the American Chemical Society, now the largest in the world. The business men have naturally been backward but they will certainly embark upon dye manufacturing enterprises if they can be guaranteed protection after the war. All of the existing American dyestuffs plants have already enlarged their facilities.

Besides synthetic dyes however there are natural dyestuffs. There was once a most flourishing business in these natural dyestuffs but synthetic dyes gradually forced them into the background. Now however there is a great demand for dyewoods. The principal dyestuff indigenous to the United States is quercitrin which is extracted from

the black oak, Quercus coccinea, var. tinctoria. Quercitron, the powdered bark, yields on extraction quercitrin which dissolves in alkali with a yellow color and form lakes with alumina and tin. It is used in wool dyeing and calico printing. The Osage Orange also yields a yellow dye as I have demonstrated here in our laboratory. This may experience a development under the present conditions. Other especially important dyewoods and shrubs are found in tropical regions. The indigo plant which thrives in India, the East Indies, Egypt, Senegal and the West Indies, produces the highly important blue dye indigo. Its synthetic production is one of the splendid achievements of modern chemistry. It is made only in Germany at Ludwigshaven. Red dyes are obtained from Brazil wood, Sandal wood, Madder, Safflower and Archil. Yellow dyes are found in fustic, young fustic, quercitron., Persian berries, Annato and Turmeric. A particularly important wood is logwood, the heart wood of Haematoxylon Campechianum, native in Central America. It comes into commerce as logs, chips and extract. It furnishes an excellent black dye for wool and cotton with a chrome or iron mordant. A North Carolina cotton-mill man has just discovered that logwood with a certain combination of cheap chemicals gives a fast blue dye for cotton. This discovery was made a few weeks ago.

The dye famine has produced a tremendous interest over the entire country and the developments of the immediate future will be watched closely by many.

VARIABILITY OF DIGITALIS PREPARATIONS AND THEIR STANDARDIZATION BY BIOCHEMIC METHODS*

John L. Henderson, Ph. G., P. D.

Though there has been much and extensive work on physiologic testing carried out in laboratories of medical and pharmacologic research, and voluminous records of this work published, the retail pharmacist 'midst the swirl of commercial and professional obligations has not given ear to a cause which stands out as one of great practical importance to his profession.

It is to be regretted that this work is limited to scientific laboratories connected with institutions of learning and with manufacturing houses.

Within the scope of this paper it is my purpose to point out certain experimental evidences regarding the biologic assaying of the heart stimulants and more especially as a type of that group its leading member, digitalis. On account of its liability to variations and of its practical importance, it is an especially suitable object for biologic or biochemic testing.

Since Fagge and Stephenson in 1866 attempted to determine the relative activity of several members of the digitalis group by their toxicity to frogs, the subject has been slowly but steadily developed. But not until the past fifteen years and more particularly during the past five years, has drug standardization by biochemic or pharmacodynamic methods been put into actual practice. Gradually, along with the adoption and publication of the National Pharmacopoeia, the organization of the American Pharmaceutical Association, with the object of improving and regulating the drug market, the adoption of the Purity Rubric and of assay processes for galenical preparations by the Pharmacopoeial Convention of 1890, and the Pure Food and Drug Act of June 30, 1906, by which the standards of the Pharmacopoeia were made Law for interstate commerce in drugs and medicines, this branch of pharmacologic work was made necessary. And finally, the scientific interests on the subject was manifested by the Pharmacopoeial Convention of 1910 in recommending that the Revision Committee adopt biochemic methods for standardizing certain preparations of drug not amenable to Chemical Standardization.

Foremost in the group of drugs requiring this method is digitalis. Our chemical knowledge of it is extremely deficient. There has been much work done in isolating its active principles in an effort to assay it chemically. Numerous bodies have been isolated, namely: digitalin, digitopyllin, digitoxin, digitalein, etc. At one time we thought digi-

* Read before a recent meeting of the North Carolina Pharmaceutical Association.

talin was the active principle, but now it is thought that digitoxin furnishes its activity. And many attempts have been made to outline a method by which its physiologic strength may be ascertained chemically. But as yet no satisfactory method has been worked out. It is needless to say here that various specimens of digitalis leaves, as well as their preparations, are liable to wide variations in potency. The conditions under which they are grown, the time at which the leaves are collected and the conditions under which they are kept have a distinct influence upon their relative potency. It has been repeatedly stated that only the second-year digitalis leaves should be used, and in recognition of this the Pharmacopoeia prescribes leaves of the second year's growth. Focke, a German investigator, reported, however, when compared with digitalis leaves of the second year, gathered at the time of seeding, that first-year leaves were about 20 per cent more active, although at the time of flowering the order was reversed. I quote from Pettinger:—"Variability in the strength of digitalis leaves has long been a matter of common knowledge, and following as a certain corollary is a greater variability in the pharmacodynamic power and therapeutic usefulness of their preparations." Edmunds and Hale quote Faukel as having reported a variation of from 100 per cent to 275 per cent in the strength of infusions of digitalis and 100 per cent to 400 per cent in the strength of tinctures of digitalis obtained by him in and around Heidelberg. This shows that the strongest sample of tincture may be four times as potent as the weakest. And many of these variations have come not only from common unstandardized preparations but from preparations which were at one time standardized and have deteriorated with age and unfavorable conditions. Understanding these conditions, we have attempted in the Pharmacologic Laboratories of the University of North Carolina to ascertain evidences by which we might know just exactly the degree of variability in the preparation we see dispensed daily throughout our State. On a number of preparations, namely: tinctures of digitalis obtained from drug stores in several of our North Carolina towns, we made a series of biochemic assays. Type methods for this work were taken from Pettinger's Biochemic Drug Assay Methods which follow:

1. Toxic method in which guinea pigs, frogs, or some of the higher anmials are used, the value of the drug or preparation depending upon the amount required to cause the death of the animal. Examples: (a) Reed and Vanderkleed's guinea pig method; (b) Famulner and Lyon's one-hour frog method; (c) Houghton's twelve-hour frog method; and (d) Hatcher's cat method for the standardization of digitalis.

2. The amount of drug or preparation required to produce some specific effect upon the intact animal. Example: the blood pressure method.

3. The amount required to produce a definite effect on an isolated organ. Example: the perfusion method. To my mind the most accurate and at the same time practical methods for this standardization are the toxic methods, in which the physiological strength of the preparation may be ascertained by the amount required to produce death. Of these, the methods I have used in the work and found to be most practical are Houghton's twelve-hour frog method and Reed and Vanderkleed's guinea pig method.

Houghton's *"twelve-hour" Frog Method* by which the strength of the drug is determined by finding the minimum amount per gram body-weight necessary to cause the death of the animal within twelve hours, consists in injecting into the abdominal lymph-sac by means of an all-glass syringe or sharp-pointed pipette, a known amount of the prepared solution. With this method many precautions are to be considered. The frogs should be of the same species and of medium size not varying more than five grams in body-weight. They must also be healthy, carefully handled, and kept in wet moss or in laboratory tanks with running water. These tanks should be kept at a temperature of about 15 degrees C. This is an important factor because frogs are very susceptible to heat and die rapidly at ordinary summer temperature while, if the temperature of 10 degrees or 15 degrees C. is maintained, death rarely occurs.

Procedure.—The preparation to be tested is freed from alcohol by evaporation and made up to the original volume by adding 75 per cent Salt Solution. The frogs are weighed and placed in wire baskets which are then placed in a galvanized iron tank partly filled with water, and having hose connection with spigot, so that fresh water may be run in to keep a temperature of about 20 degrees C. This temperature is preferable because it is nearer ordinary room temperature and can more easily be maintained. Having weighed and placed a series of five frogs in this order, the injections are made through the mouth into the abdominal lymph-sacs by means of an all-glass syringe or sharp pointed pipette. First, a series should be injected with the standard preparation (usually a solution of ouabain) to determine the resistance shown by the species of frogs in use. Then, a series should be injected with the preparation to be tested, using 9-10, 10-10, 11-10, 12-10, and 13-10 times the M. L. D. of standard preparation. Then the M. L. D. being the amount per gram body-weight required to produce systolic death of the frog. At the end of twelve hours the results are recorded. The thorax of the dead frogs may be opened and condition of the heart noted. Contracted ventricles with distended auricles are evidences of death due to digitalis. Then from the recorded results, the strength of the preparation used is easily calculated.

Reed and Vanderkleed's Guinea-pig Method which consists in de-

termining the minimum dose per 250 gram body-weight of guinea-pig that will prove fatal within twenty-four hours when a solution of the drug is subcutaneously injected. To quote Pettinger:—"This is perhaps the most convenient and generally serviceable method of valuating digitalis. The guinea-pig is especially well adapted to assay purposes because of its relative slight variation in susceptibility due to age, sex, temperature, seasons, etc. as compared with the large variation found in frogs."

As taken from Pettinger's Manual, the operation consists of the following:

Apparatus necessary for experiment.—One Hitchens syringe, pipettes graduated in 1-100 c. c., scissors, scales and set of weights.

Animals.—Guinea-pigs in good physical condition and weighing from 180 to 400 grams.

Preparation for experiment.—The guinea-pigs are prepared for the injection by clipping a shaving of hair from about one square inch of the skin over the abdomen, and painting the exposed portion with 5 per cent tincture of iodine. The pigs are then weighed and records kept.

Preparation of Solutions.—If the preparation to be tested is a tincture or fluid extract, it should be freed from the greater part of alcohol by evaporation on the water bath and diluted with normal saline solution to the desired volume. Extracts should be dissolved in a sufficient quantity of a suitable menstrum to render the doses acurately measureable. In all cases the preparation should be sufficiently diluted or concentrated, as the case may be, to make the dose injected measure not less than 5-10 c. c., nor more than 4 c. c.

Method of Injecting.—The injections are given subcutaneously in the abdominal region. The Hitchen's syringe is especially adapted for this work because it allows no possibility of loss while inserting the needle and may be washed with water without being withdrawn.

Pipette the desired dose of the preparation to be injected, into the side arm of the syringe; while holding the syringe with the side arm down, insert the needle as for any hypodermic injection; invert the syringe to allow the liquid to run from the side arm down to the apex; insert rubber bulb into the neck of the syringe and inject liquid by applying pressure to the bulb with the thumb; remove bulb; wash the side arm with about 1 c. c. of water from a wash bottle; rotate syringe several times, replace bulb and inject wash water; massage injected liquid away from the point of injection; withdraw needle.

Actual Standardization consists in injecting into a series of four guinea-pigs 9-10, 10-10, 11-10, and 12-10 of the standard dose of the preparation to be standardized for each 250 gram body-weight of the guinea-pig. The animals are then placed in cages and allowed to re-

main twenty-four hours; when they are examined and a note made of those living and those which are dead.

The results of this preliminary test, in which the range of dosage is quite wide enables the investigator to form some idea as to the strength of the preparation. Basing the dosage upon these results, other series of guinea-pigs are injected with progressively increasing or decreasing doses, as the case may be still further diminishing the variation between doses, until the smallest amount is found which will prove fatal within twenty-four hours. The probable minimum lethal dose of the preparation, unless it deviates considerably from that of the standard, is generally obtained by one or two series of injections. In order to determine whether or not this is the true M. L. D., this result is checked by carefully injecting a new series of four pigs; two with the smallest dose that was found to kill and two with the largest dose that did not kill. If, however, any of this last series show irregularities, further corrections must be made.

The chart here shown gives a convenient method for recording the data pertaining to experiments. It shows data recorded for one specimen of tincture of digitalis whose minimum lethal dose was found to be 1.57 c. c. This conclusion being reached after the third series had been injected. Then, after thus deetrmining the M. L. D., the relative strength of the preparation under experiment and the standard can be calculated by simple proportion as follows:

The M. L. D. of the unknown preparation—1.57 c. c.

The standard M. L. D. for tincture of digitalis—1 c. c.

Therefore the percentage strength of the unknown would be:

$$1.57 : 1. :: 100 : x$$

$$x = \frac{1 \times 100}{1.57} = 63.6\%$$

This means that the unknown tincture had but 63.6% of the Pharmacologic action it was supposed to have, or by deterioration or improper preparation, it was less than two-thirds as strong as it should have been to occupy its place on the druggists' shelf. By carefully working out and checking the frog and guinea-pig methods, I found the latter much more accurate. In no case with the guinea-pig did I find an error of as much as 10 per cent, though with the frogs much wider variations were noticed. The frog method proved unsatisfactory for several reasons. The difference in resistance shown by the frogs and the season, for at this, the coming summer season, they were dying rapidly. At a different season, however, this disadvantage might not be met. Then the figures which follow are based on results obtained by use of the guinea-pig method in assaying a number of digitalis tinctures.

Tincture digitalis (unknown age) 63.6%
Tincture digitalis No. 2 (one year old).....66.6%
Tincture digitalis No. 3 (from fluid extract)..59.9%
Tincture digitalis No. 4 (one month old).....85.1%
Tincture digitalis No. 5 (very old).....42.5%

These preparations were taken from representative drug stores in our State and show the variations which actually exist. We never consider, when filling a physician's prescriptions with tincture of digitalis, that the preparation may be half strength or three-fourth strength; but, like the physician, we take it for its face value and expect a definite, physicologic action from a definite volume of the tincture. However, on the part of the druggist this is not ignorance at all; because, though he may not stop to consider it, he knows of the existing variability and also the conditions which bring it about. But with the physician it is different, he knows well and in detail the pharmacologic action of the tincture and for its therapeutic value banks on it as a standard preparation of constant strength. In some cases, though, the good physician specifies standardized tincture, and in every case should be given standardized tincture. Then must we permit inferior preparations of digitalis to remain in our prescription departments?

Recognizing these conditions, are we going to buy from the manufacturer such preparations or are we going to prepare and standardize them in our own drug store laboratories? This brings us to consider the practicability of biochemic assaying. The druggist, usually having an excess of energy, says the only disadvantages are time and equipment. Now, when we term the methods "twelve-hour" or "twenty-four hour" methods, we do not necessarily mean that the experimentor must spend that much time watching the animal under experiment. It is only necessary for him to make the injections and give the animals an occasional passing glance of his attention and then, at the end, record his results. So the element time, which we most often and correctly think of in terms of money, can be considerably discounted. As for equipment necessary, the only piece of apparatus which the druggist may not have in stock is the Hitchen's syringe, and it can be bought for about 30 cents from any laboratory supply house. Frogs and guinea-pigs can be conveniently obtained at a small cost.

Some brother druggists may be antivivisectionists while others may say they can't use their prescription department for a pharmacologic laboratory; and of them I ask by what means other than buying standardized preparations from the manufacturer can they hope to furnish their prescription trade with a worthy and meritorius product?

No.	Substance	Dose per 35.09 Body Wt.	Dilution	Description	Weight	Actual Dose cc.	Time	Result
1	Tincture Digitalis No. 1	9.	None	Black and White	657	2.36	11:30	Alive
2	"	1.0	"	Brown and White	622	2.48	11:30	Alive
3	"	1.1	"	Black with White Nose	619	2.73	11:30	Alive
4	"	1.2	"	White	510	2.45	11:30	Alive
5	"	1.3	"	Brown, Black and White	582	3.03	11:30	Alive
6	"	1.4	"	Black	450	2.52	3:30	Alive
7	"	1.5	"	White and Brown	424	2.55	3:30	Finally Recovered
8	"	1.6	"	Black and White	375	2.40	3:30	Dead
9	"	1.7	"	Brown	425	2.89	3:30	Dead
10	"	1.55	"	Black	440	2.73	4:00	Finally Recovered
11	"	1.57	"	White	460	2.89	4:00	Dead

REFERENCES

Pittenger's Biochemic Drug Assay Methods.
American Journal of Pharmacy.
Proceedings of the American Pharmaceutical Association.

Former President Kemp Plummer Battle and President Edward Kidder Graham of the University of North Carolina

THE RECIPROCITY SITUATION IN THE SOUTHERN STATES

The chart below, arranged according to a similar chart appearing the February issue of the *Druggists Circular,* is easily understood. The States which reciprocate licenses are members of the National Association of Boards of Pharmacy. The rules of this Association follow:

Any pharmacists who are registered by examination in any State which is an active member of this association, may secure registration in any other State by sending the fee of $5.00 to the secretary of this association and applying for the necessary blanks, which will indicate that this fee has been paid, and filing said application with the secretary of the State board in which they desire registration, which has been certified to by themselves and by the secretary and president of the board where they first obtained registration. Said applications must indicate the following:

(a) That they shall be twenty-one years of age.

(b) That they shall have had at least a grammar school education or its equivalent.

(c) That they must present evidence of good moral character from two registered pharmacists in the State from which they come.

(d) That they shall have had at least four years' experience in a pharmacy where physicians' prescriptions are compounded and dispensed under the direct personal supervision of a registered pharma-

cist; provided, however, that graduates of recognized colleges of pharmacy, who have acquired at least two years' actual drug store experience, as described above, shall be considered as complying with this section; provided further, that they must have had, prior to their examination and registration in the State from which they apply, the legal experience necessary for applicants for examination and registration in the State to which they apply.

(e) That they shall have passed an examination on pharmacy, chemistry, materia medica and practical work and have made not less than 75 per cent general average and not less than 60 per cent on any one branch.

(f) That the applicants must have practised their profession at least one year prior to making the application for reciprocity and subsequent to their examination by the board from which they come.

(g) That they shall certify that they expect to reside in the State from which they are asking reciprocal exchange.

(h) That they shall have paid a fee of five ($5.00) dollars to the secretary of the National Association of Boards of Pharmacy.

(i) That they must be in good standing in the State in which they were originally examined and granted a certificate.

The secretary of the National Association of Boards of Pharmacy, H. C. Christensen, 450 Bowen Avenue, Chicago, Ill., furnishes the application blanks mentioned in the rules above.

	Alabama	Arkansas	Dist. Columbia	Florida	Georgia	Kentucky	Louisiana	Maryland	Mississippi	North Carolina	South Carolina	Tennessee	Texas	Virginia	West Virginia
Alabama		X		X	*X	X	X	X				X	X	X	X
Arkansas	X			X		X	X	X				X	X	X	X
Dist. Columbia															
†Florida	X	X			*X	X	X	X				X	X	X	X
‡Georgia	X	X		*X		X	X	X				X	X	X	X
Kentucky	X	X		X	X		X	X				X	X	X	X
Louisiana	X	X		X	X	X		X				X	X	X	X
Maryland	X	X		X	X	X	X					X	X	X	X
Mississippi															
North Carolina															
South Carolina															
Tennessee	X	X		X	X	X	X	X					X	X	X
Texas	X	X		X	X	X	X	X				X		X	X
Virginia	X	X		X	X	X	X	X				X	X		X
West Virginia	X	X		X	X	X	X	X				X	X	X	

* A special agreement between the States.
† Complies with N. A. B. P., but applicant must furnish a certified copy of the proofs of experience, filed by him originally.
‡ Does not require compliance with section "f" of the N. A. B. P. rules.
The "X" marks indicate reciprocity between states so conected. Blank spaces mean that no exchange of certificate is allowed.
It will be seen that the District of Columbia, Mississippi, North Carolina and South Carolina do not reciprocate with any States.

DEATHS

Dr. B. S. Worthing, one of the pioneer druggists of this State, died at his home in Spencer, June 6th. Dr. Worthing came to this State from Canada when quite a young man. He, at one time, owned a store in Asheville, and conducted a very good business there. Seeing greater possibilities in Spencer, however, he moved his stock and fixtures some ten or twelve years ago and continued the business there until his death. He was very successful with his store, and won many friends. Dr. Worthing was sixty-two years of age. He leaves a wife and three children.

DEATHS FROM LIST OF REGISTERED DRUGGISTS
From June, 1914, to June, 1915

JOHN TULL	Waynesville
JOHN T. THOMAS	Henderson
B. SWIFT DAVIS	Charlotte
THEODORE S. CHANDLER	Virgilina, Va.
McG. ERNUL	Greenville
DR. E. E. KLUTTZ	Troutman
J. C. SIMMONS	Graham

A PROPOSAL FOR THE ELEVATION OF THE PROFESSION OF PHARMACY*

C. F. NELSON, PH. D.

That Pharmacy, as it exists today, is not a profession in the sense that law, medicine and dentistry are, I think we are all, at the outset willing to admit. That it is, on the other hand, more than a business, pure and simple seems equally evident. The pharmacist thus appears in society in a double role,—he is a professional man and he is a business man—many say he is neither.

There are many reasons why this condition exists,—why it has been necessary for the pharmacist in America to become much of the tradesman; to step down, as it were, from a full-time professional schedule to that of half-time merchant and half-time pharmacist. But it is not my purpose to discuss this with you at this time. I desire rather to invite your attention to another, and, as it seems to me, a far more important aspect of this subject, namely: Must pharmacy always occupy this middle ground,—stand aloof from the professions on the one hand and apart from the domain of business on the other? Why should this anomalous condition continue? Must the pharmacist always straddle the fence,—one leg in professional soil, the other on *business* territory? Must he always stand in the middle of the Rubicon, and, as Daniel Vorhies Pike, the Kokomo lawyer in the "Man from Home" put it, "Get hell from both sides?"

The old professional ideal in pharmacy is dead. It died with the advent of the modern pharmaceutical house. We should not try nor should we desire to bring it back. We must set our eyes towards a newer and better light and follow in its path as our fathers before us followed in theirs.

When I was a boy of fourteen, my father apprenticed me to a stern and exacting member of the old school,—a man who believed that anyone who did not make all of his pills, plasters, ointments, tinctures and even fluid extracts was unworthy of the name of pharmacist. I have vivid recollections of the old backroom where all of this "pharmaceutical cooking" went on; of the big black kettle in which we made our lead plasters; of the large percolators for making fluid extracts of sarsaparilla; of the way we rubbed and rubbed to incorporate the mercury with the lard in preparing mercurial ointment; of the hours spent in coating pills with balsam of tolu dissolved in ether,—but, as I look back on it all now, I can see the many crudities and imperfections that crept in in spite of our professional zeal and care. We had no way of determining the purity of the ingredients used in making our preparations; no means, except purely physical ones, for testing

* Read at a recent meeting of the Kansas Pharmaceutical Association.

the strength of the completed product; no machinery to make our pills round and mechanically perfect. We were, in other words, compounders of our own products and, therefore, professional enough but very inefficient as measured by modern methods.

There are many pharmacists who cling fondly to the old ideal of preparing most of their own preparations. In a measure the pharmacist must always do some of this, but it is futile for him to attempt to compete with the modern manufacturer in the preparation of an ever increasing number of pharmaceutical preparations. The manufacturer has at his command the purchase of the best drugs at the cheapest prices. He can make a preparation faster and, therefore, more cheaply. By working with large quantities he can subject it to a number of rigid checks to insure its absolute accuracy. In short, with his machine he can mkae a better product more easily than the retailer can without machinery.

If then, we are ready to admit that the old standards and ideals are outworn, useless because times have changed, we are ready to ask, Are there any new ones to take their places? Is there a set of new ideals for the modern pharmacist which will prevail in the present age, which will place him in the ranks of the professional man where he really belongs? I think there is, and, while a complete solution of the problem is not at hand, there are many avenues of light, some of which the present generation may only behold, and not walk in, while others are open for his progress, if he has faith enough and the strength to believe in himself and the willingness to turn conviction into action.

A profession remains a profession because in the long run—in terms of decades, its members perform a real service to society. The pecuniary reward for professional service is after all secondary. A specialist must first of all be desirous of curing his patient; of being interested in the case for itself. If he have only the desire to make profit he soon fails.

Much of modern business today has become infused with his professional ideal of service. Many business men look upon their establishments as places where the public can be served—"After we have served you we will speak of the reward." The pharmacist was probably the first store-keeper to carry out his ideal. He "served better than he knew" when he first introduced the sale of postage stamps; when he put a telephone in a convenient place in his store for the use of his customers, only to bother him; when he bought a city directory for the use of all and even furnished scratch paper free of charge. Many will say he did it to draw trade. (If there is much trade drawn in that way his competitors would soon have found it out.) No, he did it because he had a good heart; because, way down in him was

the mouldering desire to be of service. He showed that he had the professional ideal. Here was humble service to be sure, but service it was. Something for nothing was the unformulated and latent slogan within him, but it was still there.

To those who follow the trend of modern medicine, nothing is clearer than that clinical diagnosis is becoming more and more subject to chemical and bacteriological analyses. The mere recital of symptoms by the patient does not satisfy the up-to-date physician. He is finding it increasingly necessary to check this information by actual chemical and bacteriological data. It is precisely here where the pharmacist can become the physician's colleague. Can give advice and help as a bacteriological and chemical expert, can aid in important diagnoses and thus earn the lasting respect of the individuals of his community. Precisely here, can the pharmacist take his place beside the physician as a real professional man and with him help in the elimination of pain and suffering. There are hundreds of things the physician wants to know which the pharmacist could answer if he only would, e. g., What does this urine contain? Are there any tubercular bacilli in this sputum? Does this throat swab contain the germs of diphtheria? Is this blood serum positive or negative for typhoid fever or syphilis?

All of these questions should be answered daily, many times during the day, but there is no one now to do it because the physician has neither the time nor the necessary equipment, nor even the technique for that matter, to carry out all of these tests. I think it a conservative statement to say that in most communities there is today a latent demand for at least 500 Widal tests for typhoid fever each year. And as we shall see later, the demand for analytical work does not begin to stop here.

We are living in an age of standardization, everything under the sun is being standardized; medical schools, law schools, schools of pharmacy, cities of the first class, cities of the second class, pure milk, ice cream, lemon extract and spirit of camphor. Many of these you see call for the services of a chemical analyst. We are also ever increasingly in need of the services of the analyst in our every-day life; to see that the products we buy are what they claim to be and to satisfy ourselves that the products we manufacture and sell meet with the required standards; an ever-increasing number of manufacturers, business men and private citizens need to have materials constantly analyzed. Here again there is a vast latent demand waiting only for some one to do it; this milk man wants his milk tested; this ice cream manufacturer his cream, probably his sugar. A baker would gladly pay for an analysis of a flour he bought in large quantities, or his egg powder, or his cooking oil. A manufacturer wants to know if the water he uses is suitable for use in his boilers, or if the coal he bought is what he contracted for. All of this work is truly professional in

character. The pharmacist already has his store, his chemicals, his chemical training; and he is therefore the logical man to undertake it. If he rises to the occasion he cannot fail to advance himself, at the same time to elevate the character of his profession.

I have tried to show that there is a vast latent demand in every community for real analytical work of a chemical and bacteriological character, and that the pharmacist, by reason of his training and equipment, is the logical man to undertake it. I have also tried to point out that if he does attempt this work he will pull his profession upwards with him. The matter may probably be summed up in this manner. The modern pharmacist should be not a "pharmaceutical cook" whose ideal lies in making a few galenical preparations, but first of all a "prescription specialist," a man who understands how to compound a prescription accurately and scientifically, who can determine and check the purity and strength of the ingredients that enter into it by chemical and biological methods; and, in the second place, he should be a chemical and bacteriological expert to help the physician diagnose his cases; to help the manufacturer and the private citizen solve their chemical problems. He should be able to run for the office of city chemist and city bacteriologist. We don't have many such men in Kansas as yet, but we will have, and soon.

The time then seems ripe for the establishment of at least small analytical laboratories in connection with our drug stores, not excepting even those in very small communities. The beginnings may be small and modest. The outlay in money need be very slight. One may choose to specialize on only a few kinds of analyses at first, say, examination of throat swabs, sputum analyses, or Widal's test for typhoid fever, and then gradually widen out as one's experience grows. The druggist is always wanting to put in new side lines to improve his business. Certainly a departure of this sort would be valuable as a money maker after it was worked up, and it would do much to elevate the profession as a whole.

The laboratory should occupy a prominent place in the front part of the store. It may thus be made to pay for itself as an advertising medium. To say that it will improve the looks of a store more than the modern soda water fountain needs no argument The effect it will have on the physician and also on the trade seems obvious. That it can be made profitable in most cases looks equally evident. What expense will be involved in the establishment of such a laboratory? To answer this question we must of course know on how large a scale we wish to operate. But suppose we get quotations on a moderate chemical and bacteriological outfit. An expenditure of less than $500.00 will give us all we need, will equip us with first-class analytic balances, microscopes, ovens, auto-claves, glassware and chemicals, will give us in fact a very good equipment for making most of the determi-

nations we will be called upon to make. When this amount is put along side of what a good many druggists pay for soda fountains, many of which do not much more than pay for themselves, but are only used to draw trade, I think you will see that a neat analytical laboratory will serve the latter purpose much better and, at the same time, fill a real need. The expense of operating such a laboratory need not be very large. Many druggists detail a man to look after soda-water and cigars and sundries, at a cost of $50 or $60 per month. The average young man that enters the analytical laboratories of our large corporations after leaving college begins at $60 to $75 per month. A bright graduate of the three or four years' course in pharmacy has all the basal education he needs to begin in such a laboratory and can help with the general drug business until there is enough work to occupy his entire time in the laboratory.

There is one matter, in this connection, that I wish particularly to call your attention to at this stage: The pharmacist has for years received in our schools of pharmacy a good chemical training but he has not made proper use of it. He has, it seems nearly always, taken a back seat, has not mixed in the fray, and consequently, in a short time after leaving college, he feels incompetent to do anything more than fill prescriptions or sell cigars. Imagine a physician doing the same. He comes out of college as "green" as the pharmacist, but he has to "pitch in" and do things he has never done before. He does things every day which he never was taught how to do while in college. Naturally, most pharmacists have not been through the routine of most of the common bacteriological and chemical tests that would be required of them if they set out to become analysts, but they have the basal education necessary and it is only a matter of a little study, nerve and practice for them to become experts along this line. Moreover, the routine analysis of milk, water, foods, drugs, urine, blood, sputum, serum, etc., have become so systematized that details and directions of procedure are easily available. It only takes a little time and practice for any one with a pharmacist's previous training to become expert in carrying them out.

If you have followed me in the rather scattered remarks I have made you will see that I have tried to establish the following points:

First—That pharmacy as it is today is a "mongrel creation" without standing in either the professional or business worlds.

Second—That the old ideal of pharmacy as a place where galenical preparations should be manufactured has to be in a large part abandoned because of the futility and undesirability of competing with the modern first-class pharmaceutical houses.

Third—That while the pharmacist should progressively abandon making most of his galenical preparations, he should increasingly strive to maintain his standard as a professional man by becoming a better

"prescription compounder" and should bend his efforts towards the accurate checking of the drugs he buys and dispenses, rather than to their manufacture.

Fourth—That I have tried to show that the pharmacist has never lost the professional ideal of service and that modern life has a place for him in which to exert his very best efforts in a truly professional way.

Fifth—We have seen that there is a vast latent demand for analytical work of a chemical and bacteriological character from both the physician and the public in general. This work the pharmacist should do and can do by establishing an analytical department (even though it be very small) in connection with his store.

Sixth—That the analytical laboratory will become a source of profit to the druggist, it will serve a real need in the community, and last but not least, by doing this scientific work, the pharmacist will establish himself on a plane with the physician and lawyer and thus elevate his calling to that of a true profession.

WILLIAM SIMPSON

JANE S. MCKIMMON, Raleigh

William Simpson, the subject of this hasty sketch, was born in New York City, May 21st, 1839. Some four years later his parents, who were natives of Scotland, moved from New York to Richmond, Va., where William remained, with brief absences, till the outbreak of the Civil War.

Owing to business reverses, his parents' plans for his education had to be abandoned; and the boy, at sixteen years of age, was thrown largely upon his own resources. Following a strong natural bent toward the study of chemistry, he soon found employment in a "drug store," then the only available means to his desired end. In this situation his remarkable aptitude for the work to be done, brought him rapid promotion, and, by the time he reached manhood, had earned for him an assured place in his chosen field.

Many old fashioned people still believe that the training acquired by the students of pharmacy two generations ago, when apothecaries were forced to make for themselves most of the extracts, essences, compounds, etc., needed in their business, was not without important advantages over the training of the present day, when very many of the preparations called for in prescriptions can be ordered ready-made from the wholesale dealer.

In 1861, shortly after his marriage, he was called to this city, Raleigh, N. C., where his parents had been living for some years. Here he served for a time as drug-clerk and nurse in the Confederate States hospital; but after the death of his father, in 1862, he found it necessary to give up temporarily his special work, and to devote himself for a number of years to his fathers business. As soon as possible, however, he took up again work as a pharmacist for which he was so well fitted, and was promptly recognized throughout the state, and even beyond its borders, as a leader in his profession.

In addition to his work as a druggist, he found time, being, as was frequently said of him "a born teacher," to direct the studies of a considerable number of young pharmacy students, both individually and in classes; so that many pharmacists of the younger generation throughout the state are indebted to him for their professional training. He lectured, also, in association with a number of physicians of the city, at Shaw University, his work for the students of that institution being notably successful until cut short by his failing health and loss of sight.

As one of the originators of the North Carolina Board of Pharmacy, he rendered distinct and important service to the State. He took a leading part for years in the work of the Board, frequently preparing and conducting the examinations for license, and contributing in

many ways to the increase of proficiency among North Carolina pharmacists.

During the great Fair at Chicago in 1893, he acted as one of the judges of the pharmacy exhibit, and was highly complimented by the authorities of the Fair on the fulness and clearness of his reports. His colleagues in this work were men of the highest distinction from all parts of America and of Europe. At another time he had the honor to be a member of the Board, or Commission appointed to revise the United States Dispensatory.

At the meeting of the "American Pharmaceutical Association," held at Asheville, N. C., he read a paper on the medicinal plants and products of North Carolina, and was permitted by the State authorities to exhibit part of the magnificient collection of specimens prepared by Mr. T. K. Bruner for exhibition at St. Louis, Boston, Paris, and other cities of this country and Europe. The following year he was made President of the Association, and in his address at Denver he urged the importance of broader education as a qualification for the practice of pharmacy, and as a means of improving the professional standing of pharmacists throughout the country.

The present writer not having access to records of any sort, has not been able to give exact dates or names in what is here written, but has had to be content to point out in a haphazard way some noteworthy features in William Simpson's professional career. It must be left, also, to others to speak of his personal characteristics—of his intelligence, his modesty, his courtesy, and his big-hearted generosity.

CHARLES PEYTON GREYER, P. D.
Recently elected member of the North Carolina Board of Pharmacy

CHARLES PEYTON GREYER. P. D.

Dr. C. P. Greyer, of Morganton, who was unanimously chosen by the members of the North Carolina Pharmaceutical Association to succeed J. P. Stowe, of Charlottte, whose term expires next April, was born on a farm near Harrisonburg, Virginia, March 22, 1876. His early education was obtained in the country schools near his home. When about twenty years of age he entered Roanoke College, at Salem, Virginia, completing the course leading to the degree of A. B.

After graduating, Dr. Greyer entered the drugstore of A. T. Pollard & Company, Philadelphia, as an apprentice under the old system of training, and here acquired the fundamentals of practical pharmacy. After serving his apprenticeship, he entered the Philadelphia College of Pharmacy, where he later graduated with the degree of Doctor of Pharmacy.

Dr. Greyer came to North Carolina in the spring of 1906, and was employed as a drug clerk by Mr. John Tull of Waynesville. In the fall of this same year he organized the Burke Drug Company, Inc., at Morganton, since which time he has acquired all the stock of this company.

Dr. Greyer was married at Delaplane, Virginia, in October, 1907, to Miss Mamie Chappelear.

The JOURNAL is in receipt of the following letter from E. L. Tarkenton of Wilson, President of the North Carolina Pharmaceutical Association:

WILSON, N. C., July 12, 1915.

DEAR FELLOW PHARMACISTS:

It is time to concentrate our minds on the problems before us, instead of on distant green fields. Do you know your world? Do you know its wants? It's whims, its requirements in every way? Look yourself squarely in the eye and answer truthfully, are you meeting those requirements? Are you neglecting to protect your dearest possession, that for which you labored diligently and for which you were educated by special course of instruction? In this day of commercial greed and encroachment upon our business, will you stand aside and let the *chain stores, cut rate evil, mail order houses, department stores,* and numerous other things I could mention drag our profession down so low that we will never be in position to regain it? Will you not give a little of your time and energy to help our Association of pharmacists through North Carolina to grow in unity and be one large organization so we can stand up for our rights? Do not go to sleep and then awake to late to protect yourself.

Some methods should be formulated that will protect our interest and to keep out those who would destroy our good name. It is very necessary that each pharmacist in North Carolina seriously consider the necessity of affiliating with the NORTH CAROLINA PHARMACEUTICAL ASSOCIATION, which has an unsullied record of constant vigilance for the interest of Pharmacy for thirty-six years. Every Pharmacist who has any pride in his profession should be a member of the N. C. P. A. If you are not a member, will you not write to the Secretary, Mr. J. G. Beard of Chapel Hill, and have him send you an application blank. If you are a member write anyway, and go out and get your brother druggist to become a member. Everyone should have a desire to assist. You have a joint interest in developing the Association for greater good; we are all concerned in securing the greatest possible value from our membership in it.

I ask for your assistance in making the N. C. P. A. a power in the State.

E. L. TARKENTON,
President, North Carolina Pharmaceutical Association.

STRAY ITEMS

Messrs. Hague and Goode, formerly prescription clerks for T. C. Smith and Company of Asheville, have opened a very attractive store on Patton Avenue in Asheville. The JOURNAL predicts for these young men a healthy, prosperous career.

J. W. Bailey, Collector of Internal Revenue, Raleigh, delivered a very interesting address on the Harrison Law at the recent meeting of the North Carolina Medical Society, in Greensboro.

Haywood & Boone, of Durham, have recently installed new fixtures that are very modern in every respect.

The following graduated from the Pharmacy School of the University of North Carolina at the 1915 Commencement:

With the degree of Graduate in Pharmacy (Ph. G.): W. W. Allen, Hendersonville; F. J. Andrews, Durham; J. F. Andrews, Durham; A. S. Cassell, North Wilkesboro; A. L. Fishel, Winston-Salem; J. L. Henderson, Hickory; T. R. Koonce, Chadbourne; E. V. Kyser, Rocky Mount; R. A. McDuffie, Greensboro. With the degree of Doctor of Pharmacy (P. D.): F. J. Andrews, Durham; R. H. Andrews, Chapel Hill; J. L. Henderson, Hickory. With the degree of Pharmaceutical Chemist (Ph. C.): S. B. Higgins, Leicester.

The Rose Pharmacy at Hendersonville has been moved from the corner of Main Street and Third Avenue to the corner of Main Street and Fourth Avenue.

The Dixie Medicine Company of Charlotte, has been chartered to do a general drug business; capital stock, $25,000. Incorporators, G. A. Smith, C. R. Mayer, and F. A. Ernest, all of Charlotte.

The Wheless Drug Company of Farmville, with an authorized capital stock of $5,000 will begin business at an early date. The incorporators are: R. H. Patterson, Wilson; J. M. and F. H. Wheless, Farmville.

The Yarborough Drug Company, of Nashville, has been chartered with a capital stock of $10,000 authorized and $1,500 subscribed by J. D. Boddie, J. S. Yarborough, and others.

H. T. Hicks and Company of Raleigh, has opened a handsome, modern store at Capitol Square which is to be under the management of Cope Ellington. The furniture is of solid mahogany with glass counters and the shelving of buffet style.

Sixty-nine applicants took the examination of the North Carolina Board of Pharmacy at Raleigh on June 10 and 11. Of these, 39 were successful and received licenses to practice, as follows:

Joseph A. Mills, Tabor; Junius C. Warren, Benson; Andrew S. Pope, Weldon; Nathan J. Silverman, Wilmington; Roland W. Horton, Monroe; Charles D. Porter, Concord; Houston Wolfe, Spencer; Robert J. Boaz, Greensboro; Benjamin F. McMillan, Jr., Red Springs; Richard H. Ingle, Charlotte; Herbert Rives, Robersonville; George D. Grimes, Robersonville; Oliver P. Winstead, Nashville; William L. Hand, Charlotte; George S. Blackwelder, Hickory; John H. Tolar, Jr., Cedar Grove; Arthur L. Fishel, Winston-Salem; Edward V. Kyser, Rocky Mount; Thomas R. Koonce, Chadbourn; Gray B. Finley, Marion; Lacy M. McKenzie, Lumberton; Joseph C. Powell, Biscoe; Robert L. Miller, Lawrenceville, Va.; Newton L. Beach, Morganton; Edwin B. Davis, Lenoir; Carl D. Roesnbaum, Tarboro; Junius F. Andrews, Durham; Jesse E. Turlington, Benson; Edward W. Woollard, Scotland Neck; Charles F. Gamble, Waxhaw; Joe M. Davidson, Greensboro; George Byrd, Fayetteville; Marion H. Hoyle, Canton; Willie W. Smith, Waynesville.

Colored—Wayman W. Williams, Fayetteville; David L. Bland, Sanford; John L. Stephens, Norfolk, Va.; Augustus T. Kennedy, New Bern; Valentine C. Hamlin, Raleigh.

The next meeting of the Board will be held at Raleigh on November 19.

The Edgecombe Drug Company at Tarboro is to be enlarged and very greatly improved. The floor space will be doubled by annexing what has been the quarters of the Government post office and fitting fixtures will be installed. A. T. Nicholson, who is manager and one of the owners of the store, was for many years employed by President E. V. Zoeller of the Board of Pharmacy as prescription clerk. "Nick," as he is familiarly called, is one of the best druggists in his section of the state, and the JOURNAL wishes for him every measure of success.

The Patterson Drug Company at Wilson has recently installed the cashier system, which we understand is a great success.

The Apothecary Shop, Inc., of Elizabeth City, the proprietors of which are Messrs. Overman, Morisette and Etheredge, is an up-to-date pharmacy in every respect, and would be a credit to a much larger town.

The Sloop Drug Co., of Shelby, L. L. Sloop manager, has recently added the Santox line of preparations.

H. E. Kendall's own-make preparations which he recently added to his stock in the Kendall Drug Store at Shelby are finding a ready sale.

Clerks who desire information concerning any pharmacy school in the United States can readily get this information by applying to the editor of the JOURNAL. Also, information will be gladly furnished by the editor relative to any of the pharmacy examining boards. A directory of the Southern schools of pharmacy appeared on page thirty seven of the May issue of this magazine.

Every North Carolina druggist should feel glad of the wonderful success which C. D. Bradham of New Bern has had

in the drug business and in the manufacture of the popular drink, Pepsi-Cola. Mr. Bradham was for many years a member of the N. C. Board of Pharmacy, and has long been an active worker in the North Carolina Pharmaceutical Association. Back in 1898 Mr. Bradham originated the formula for Pepsi-Cola, and the drink was first served at the fountain of the Bradham Drug Company, corner of Middle and Pollock Streets, New Bern. At that time the Pepsi-Cola "plant" consisted of a thirty-five gallon barrel, located in the basement of the drug store. The present plant, also located at New Bern, was begun in 1907, completed in 1908, and has a daily capacity of ten thousand gallons of the Pepsi-Cola syrup. While the sale of this popular beverage has not yet reached ten thousand gallons daily, Mr. Bradham anticipated the growth of the business, and it appears certain at this time that in a short while the plant will be taxed to its limits to supply the increasing demands which come from all states east of the Mississippi.

R. E. Carpenter, manager of the Cleveland Drug Co., of Shelby, by a general change of the interior of the store, is making a great improvement in the appearance of this successful apothecary.

Fred H. Marley, Jr., joined the firm of the Old Fort Drug Company of Old Fort, several months ago, and is now the junior clerk in that establishment. Though a junior, we understand the little fellow has charge of the business.

PERSONALS

J. W. Streetman, for twenty years a prominent druggist of Marion, was recently re-elected mayor of that prosperous city. So far as the JOURNAL has been able to ascertain, Mr. Streetman is the only druggist mayor in North Carolina, and we hope that his career as a mayor will be as successful as his life as a druggist has been.

D. H. Fulton, who has been manager and stockholder of the Fulton Drug Company, of Durham, has severed his connections with this firm and has accepted a position with Burrow & Martin, Norfolk, Virginia.

George White of Durham, who was operated on for appendicitis at the Watts Hospital five weeks ago, is at his home for a couple of weeks regaining his strength.

John L. Howerton of Greensboro, has purchased the Sykes Drug Store in the Guilford Hotel Building.

George Tyson has returned to Conyers' Drug Store in Greensboro as prescription clerk.

C. P. Harper of Selma, former president of the N. C. P. A., and D. H. Creech of Smithfield, attended the Parke Davis Convention of retail dealers in Detroit the latter part of June.

G. E. Burwell, Treaurer of the N. C. P. A., is a traveling representative of the Druggists' Co-operative Syndicate, of Baltimore.

W. L. Bushman, for the past two years a clerk with the Thompson Drug Store of Winston-Salem, has accepted a position as manufacturing chemist with the Noman-Perry Company of the same place.

J. A. Mitchener has recently opened a beautiful store at Edenton, North Carolina. This store would do credit to a town of ten thousand population. Mr. Mitchener owns the building and stock.

D. M. Fields is manager of the Southern Drug Company at Hertford, North Carolina.

Milton P. Dawson and Richard H. Bunn, proprietors of the Griffin Drug Company, Rocky Mount, an old and successful store established many years ago by John M. Griffin of Rocky Mount, later operated by his son, Hugh M. Griffin, and finally sold to the present owners, will thoroughly remodel the store and make it modern in every respect.

Herma L. Hicks, who was married several months ago to Miss May Williams of Newton, is one of the stockholders, and is prescription clerk for the McNair Drug Company of Tarboro.

Between sessions of the Pharmaceutical Association in Durham last month, several members found it convenient to run over to Chapel Hill to inspect the buildings and grounds of the University of North Carolina. It was observed that of the visiting druggists, every one was a graduate of a different institution. The delegates taking the trip to Chapel Hill were: E. V. Zoeller, Tarboro, President of the North Carolina Board of Pharmacy, Ph. G., of New York College of Pharmacy; W. H. Justus, Hendersonville, Ph. G., Vanderbilt University; C. D. Sedberry, Fayetteville, Ph. G., University of Maryland; W. W. Horne, Fayetteville, Ph. C., University of Michigan, member of the North Carolina Board of Pharmacy; I. W. Rose, Rocky Mount, also a member of the North Carolina Board of Pharmacy, and Ph. G. of the University of North Carolina; and C. P. Greyer, Morganton, P. D., Phil-

adelphia College of Pharmacy, newly elected member of the North Carolina Board of Pharmacy.

On another day of the Convention the University was also visited by the following pharmacists: C. A. Raysor, proprietor of the Raysor Pharmacy in Asheville; E. L. Tarkenton, Wilson, newly elected President of the N. C. P. A.; H. T. Kershaw of Baltimore, traveling representative of Muth Bros.: and C. P. Harper, of Selma.

W. D. (Billy) Bryant has been prescription clerk for Staton and Zoeller of Tarboro, for the past two years.

Charles E. Malone of Burlington, has accepted a position with Eubanks Drug Company of Chapel Hill.

Dean E. V. Howell of the University School of Pharmacy, delivered a very interesting address before the last meeting of the Medical Society in Greensboro. His subject was "Medical Reforms," and had special reference to "patent" medicines and narcotics.

Clyde Eubanks, a successful druggist of Chapel Hill, was carried to the Rex Hospital at Raleigh, July 10th, to be operated upon for appendicitis. Late reports indicate that his condition is as good as could be expected.

It was with real regret that the members of the North Carolina Pharmaceutical Association had to accept the resignation of C. D. Sedberry of Fayetteville, as Chairman of the Executive Committee. For many years Mr. Sedberry has labored diligently for the Association in this capacity. He is well known throughout the state, being a traveling representative of Henry B. Gilpin Company of Baltimore. His place as chairman of the Executive Committee is filled by C. J. O'H. Horne, an enterprising young druggist of Greenville, and a former student in the Pharmacy School of the University.

ALUMNI NOTES

John L. Henderson, Ph. G., P. D., 1915, won the Bradham Merit Prize for having made the best general average throughout his course of study. This prize, which is offered annually by Mr. C. D. Bradham of New Bern, is an honor much sought after. Mr. Henderson is now located with the firm of S. B. Penick & Company, of Marion, Importers and Exporters of Crude Botanical Drugs, and is one of the pharmacognists of the firm. During his leisure time he is engaged in writing a small book containing the history of the commoner drugs.

The JOURNAL is very glad to learn that Arnold P. Foy, 1914, who holds a position with the Mount Olive Drug Company, is fast recovering from the serious accident which befell him a few weeks ago. Mr. Foy, together with several friends, was swimming in a mill pond a few miles from Mount Olive, and in diving into the water from the mill, his spinal column was either fractured or dislocated near the head. He was immediately carried to the Sanitarium in Goldsboro, and for some little time it was feared that his injuries would prove fatal. However, for the past few days his improvement has been very encouraging.

F. L. Hooper, a former student in the University Pharmacy School, and a Graduate in Pharmacy from the Atlanta College of Pharmacy, has recently established the Hooper Drug Company of Sylva, North Carolina. At Carolina Fred was thoroughly liked by all the students, and they hope for him every measure of success in his new undertaking.

Homer Andrews, Ph. G. 1914, P. D. 1915, is manager of the Mount Olive Drug Co. at Mount Olive. This is a new store established by the Ross Drug Company of the same place. Mr. Andrews, during his senior year in college, was an assistant in the pharmacy laboratory.

R. A. McDuffie, Ph. G. 1915, who was business manager for the JOURNAL OF PHARMACY, while in college, and a student

who attained many honors, not only in his department but also in other branches of the University, has charge of the prescription department of the Still Drug Company, Greensboro.

G. B. Finley, 1914, who passed the last examination of the State Board of Pharmacy, is now manager of the Blue Ridge Pharmacy, at Black Mountain. This drug store is owned by J. Robert Davis, a successful druggist of Marion.

Stroud O. Brewer, 1915, who was for several years before coming to college with the Harville Drug Company of Thomasville, is now a registered pharmacist with the Davis Drug Company at Roxboro.

Kenneth A. Kirby, Ph. G. 1914, has for the past year been actively engaged in the drug business at Marion, North Carolina. Mr. Kirby is a member of the firm of Walker & Kirby.

Fred H. Marley, 1914, is proprietor of the Old Fort Drug Company at Old Fort. Mr. Marley has a very successful business.

S. B. Higgins, Ph. C. 1915, was the first student to receive the newly granted degree of Pharmaceutical Chemist (Ph. C.). He is now with the Mallinckrodt Chemical Works, St. Louis, as a chemist.

J. E. Murray, Ph. G., 1913, is manager of the Canadian Branch of the Emerson Drug Company, and has headquarters at Toronto.

A. S. Cassell, Ph. G., 1915, is manager of the Wilkesboro Branch of the Brame Drug Company.

C. Wolfe, 1905, is the successful manager of the only drug store in Waxhaw, a community of about one thousand people.

C. L. Cannon, 1904, formerly of Ayden, is the proprietor of a thriving drug business in Robersonville.

E. C. Adams, 1908, is the manager of J. H. Kennedy & Company's drug store, at Gastonia.

W. W. Allen, Ph. G. 1915, assistant in the pharmacy laboratories during his senior year, is a prescription clerk with Hunter's Pharmacy at Hendersonville.

W. B. Wilson, 1911, is at present employed by Hunter's Pharmacy, Hendersonville.

W. S. Wolfe, 1914, is a prescription clerk with the I. W. West Drug Company of Mt. Airy.

Claude Cannon, 1908, is with the United States Public Hospital and Marine Corps, and is located in Chicago.

E. V. Kyser, Ph. G. 1915, has charge of the Kyser Drug Store at Rocky Mount.

Carl D. Rosenbaum, 1915, who passed the June examination of the Board of Pharmacy, is at present a prescriptionist with the Elgecombe Drug Company at Tarboro.

G. M. Atwater, 1912, who has been in a hospital in Norfolk suffering from appendicitis, is now able to return to his position with the Albermarle Pharmacy, Elizabeth City.

F. H. Pender, 1915, of Tarboro, is employed by the Rose Pharmacy at Rocky Mount.

L. H. Winstead, 1913, has deserted pharmacy, and is now with the Branch Bank and Trust Company of Wilson. While in college "Zolly" was a member of the baseball team.

Ralph Hilliard, 1914, of Wilson, is at present working in a drug store in Philadelphia.

F. H. Petrea, 1915, is a junior clerk with the McNair Drug Company of Tarboro.

Ben Dawson, 1909, is now with R. E. L. Cook, druggist, Tarboro.

F. G. Jacocks, 1900, is proprietor of the Albemarle Pharmacy of Elizabeth City. Reports indicate that "Jake" is doing a splendid business.

Paul Webb, 1898, of Shelby, a member of the first pharmacy class at the University, is spending his vacation at Wrightsville Beach.

F. E. Hoey, 1916, of Shelby, is a partner in the firm of the Cleveland Drug Company, that place.

J. D. Whitehead, Jr. Ph. G., 1912, formerly of Enfield, is now engaged by the Rose Pharmacy at Rocky Mount.

C. B. Rheinhardt, 1912, is employed by the Marshall Pharmacy at Marshall. Mr. Rheinhardt recently made application for membership in the American Pharmaceutical Association.

Hugh L. Gwyn, 1911, is managing a drug store at Mt. Airy.

Adolph G. Ahrens, 1902, is a member of the wholesale drug firm of Ahrens Brothers, Wilmington.

Wallace Patterson, 1904, is part owner and manager of the Patterson Drug Company, Chapel Hill.

Ralph E. Kibler, Ph. G., 1907, was at last reports, manager of a large drug store in Spartanburg, S. C.

D. H. Creech, 1909, manages the Creech Drug Store at Smithfield. A snapshot of this store which is in the possession of the JOURNAL, shows it to be one of the handsomest stores in the state.

Burney S. Warren, 1909, is proprietor of the Warren Drug Co., a successful drug establishment in Greenville. Mr. Warren read a paper at the last meeting of the N. C. P. A. at Durham, the title of which was, "The Relation of the Physician and the Pharmacist."

DeWitt Quinn, 1909, is with H. E. Kendall, druggist, Shelby.

George Waters, Jr., Ph. G. 1911, is manager of a thriving drug business in Goldsboro.

Charles O'Hagan Horne, 1910, Greenville, was recently

elected Chairman of the Executive Committee of the North Carolina Pharmaceutical Association.

Joe M. Anderson, 1912, is in the drug business at New Bern.

A. G. Webb, Ph. G., 1912, and Rupert Jernigan, 1915, are proprietors of the Carolina Drug Co., Chapel Hill.

SPECIAL ATTENTION—Drug Stores (snaps), also jobs. All states. Physicians, Dentists, Veterinarians, furnished, and practices sold. F. V. Kniest, Omaha, Nebraska. Established 1904.

EUGENE THOMAS WHITEHEAD

Thirty-Second President of the North Carolina Pharmaceutical Association, whose recent death at Scotland Neck brought sadness in the ranks of North Carolina pharmacy.

EUGENE THOMAS WHITEHEAD

Today Scotland Neck mourns the death of one of its most prominent and useful citizens in the departure of Mr. Eugene Thomas Whitehead, well known all over North Carolina as one of the State's leading druggists.

While the death of Mr. Whitehead was by many expected yet the people of the town and community were not prepared for the shock that was theirs when the announcement was made Wednesday evening, July 21, about 9 o'clock that he had breathed his last. Mr. Whitehead was about his usual business all day Tuesday and up to the closing time Tuesday night, but for some time his health had been failing and he had been complaining more than usual during the day and evening.

Mr. Whitehead was the only child of the late Mr. and Mrs. Joseph H. Whitehead. He had been in the drug business in Scotland Neck for many years. He was an enthusiastic member of the North Carolina Pharmaceutical Association, and served the association in almost every official capacity from president down. He was often called upon to prepare papers upon various pharmaceutical subjects to be read at the annual gatherings of the association, which he did in splendid style, always digging deep in the subjects under consideration.

On November 24, 1893, Mr. Whitehead was married to Miss Lizzie Lawrence, daughter of the late Mr. and Mrs. Jas. H. Lawrence. To this union there have been born seven children, two of whom died in infancy. Two girls, both of whom are about grown, three little boys and his wife survive him, to whom the heart of the entire community goes out in tenderest sympathy.

Mr. Whitehead was a valued member of the Baptist church and had served as a member of the board of trustees of the Scotland Neck graded schools since their establishment. He was active in everything that was for the betterment of the town and community.

The funeral services were held from his late residence Friday morning, being conducted by his pastor, Rev. R. A. McFarland, assisted by Rev. R. S. Fountain. The interment was made in the Baptist Cemetery.

Attending the burial were people from all over the state, and the assemblage at the grave was estimated at more than 600 people. All business of the town was suspended in honor of the man who was held in the highest esteem by every one who knew him.

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EDWARD VICTOR ZOELLER
Tarboro

For twenty-two years President of the North Carolina Board of Pharmacy

The Carolina Journal *of* Pharmacy

Published quarterly by the William Simpson Pharmaceutical Society of the University of North Carolina School of Pharmacy at Chapel Hill.

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The editor had to delay the publication of this issue of the Journal because of orders from his physician not to undertake any work other than teaching for a few months.

Business Manager.

EDITORIALS

EDWARD VICTOR ZOELLER

With fear and trembling the Journal this month presents a recent photograph of E. V. Zoeller, of Tarboro, the long-time president of the North Carolina Board of Pharmacy. With "fear and trembling" for the reason that if there is one thing President Zoeller hates worse than inaccuracy, it is personal publicity. He is retiring to the point of bashfulness, and comes forward into the limelight only when bound, gagged, and dragged. He is going to be displeased by the publication of his photograph and by what we shall say, but for once we are going to ignore his preferences and hold him up to the public gaze.

The pharmacists in North Carolina, with a few exceptions, do not really know Mr. Zoeller; he hides away under his achievements. But gradually there will come to light a general knowledge of the enormous influence he has wielded in bring-

ing the standing of the pharmacists of the state up to the highest possible plane by a campaign of education. As the chief of the examiners for a score of years he has gradually extended the scope of the semi-annual examinations until, today, a successful candidate for registration as a pharmacist in this State ranks very favorably with the licentiates of any Southern state.

Mr. Zoeller was appointed a member of the Board of Pharmacy by Governor Holt in April, 1892, and was elected by the members of the Board as their president in 1894 to succeed H. R. Horne, of Fayetteville. For twenty-two years he has served as president of the examiners, and how well he has served is attested by the fact that when his five year term of office expired in 1911, and he refused re-election as a member of the Board, the Pharmaceutical Association disregarded his wishes, unanimously selected him again, and prominent members pleaded with him not to refuse the office. They finally prevailed upon him to accept, but it was distinctly an instance of the office seeking the man and not the man the office. So great is the confidence imposed in his leadership by the druggists in the Association that President Zoeller will have to move away from North Carolina when he wants to retire.

Mr. Zoeller is a charter member of the North Carolina Pharmaceutical Association. He has held every office in this organization except treasurer, and he has even served as treasurer *pro tempore,* we believe. To mention some, though not all, of his activities in this body:

President, 1890.
Secretary, 1887-89.
Member Papers and Queries Committee, 1882-86.
Member Pharmacopoeial Committee, 1887-'89 and 1909.
Member National Formulary Committee, 1888, '89, '92, '96.
Member of Committee on Education, 1890-93.
Delegate to 7th International Pharmaceutical Congress in Chicago, 1893.
Delegate to American Pharmaceutical Association, 1882-83, '84, '87, '88, '91, '94, '96, 1902, '03, '05, '06, '07, '08, '09, '11, '13, '14, '15.
And many minor offices.

Mr. Zoeller has read a number of papers before the Association. Notable among these were: *"Syrups and Emulsions," "An Examination of the Commercial Pepsins,"* and *"Kerosene Oil and its Testing."*

Mr. Zoeller joined the American Pharmaceutical Association thirty-seven years ago, and since that time has been a zealous worker and a faithful attendant at the meetings of this national body.

THE DUOCENTIGRADE THERMOMETER

They are again agitating the question of Centigrade and Fahrenheit thermometers as the standards of heat measure. It is noted that many opponents of Celsius's centigrade scale are also opposed to the Fahrenheit, and only line up on the side of adherents of the latter because every one in this country and England understands its readings and is against any changes unless something better than the centigrade is offered. The chief opposition to the centigrade appears to center in the necessity for using fractions; the one hundred points between freezing and boiling not being sufficient to show minor differences in temperature without the use of fractions, it being likened to a yard-stick graduated in feet but not in inches. As is well known, in the Fahrenheit scale there are 180 degrees between freezing (32°) and boiling (212°) or nearly twice as many degrees difference. Except for this objection no one could reasonably oppose the centigrade scale. Common sense coupled to some thought would show the desirability of having zero as the freezing point instead of the foolish figure 32, as on the Fahrenheit, and a number like 100, 200 or 300 as the boiling point of water.

The editor offers the following suggestions: Instead of using a scale from zero to 100, or 32 to 212, adopt instead a scale reading from 0 to 200. That is, the thermometer would be calibrated so that water freezes at 0°,—the logical figure to indicate the degree of cold when snow or ice thaws naturally or water beings to freeze,—and boils at 200°. This allows a still larger number of degree figures between freezing and

boiling than the Fahrenheit scale, and eliminates fractions as well as the illogical, awkward 32. Of course the scale would continue beyond 200°, in fact to 1000°, and below 0°, to permit thermometric readings above and below the boiling and congealing points of water.

For meteorological estimations it is claimed that the Fahrenheit scale is preferable to the centigrade, (and the same argument would apply to the duocentigrade) because with a Fahrenheit thermometer 32° of cold below the freezing point can be registered without the use of minus numbers. This is an advantage in temperate climates, it is true, but in such places it is seldom the temperature goes below freezing: so this fact should not be allowed to weigh against the new scale. In the cold climates of the North and West even the Fahrenheit scale would constantly register below zero in the strictly winter months; so minus degrees must be thought of anyway. In tropical and semi-tropical lands freezing temperatures are not reached; hence the above objection would apply to only a portion of the people for a portion of the year. Surely the minor annoyance of occasionally having to speak of a few degrees below zero should not prevent the adoption of a thermometric scale which in every other way offers many undoubted advantages over the Fahrenheit measurement.

A good centigrade thermometer is calibrated above 200°, and therefore could be used as a duocentigrade thermometer, if it is kept in mind that 200°, instead of 100°, is the boiling point of water. The zero point is the same on both scales. The following rules are offered for converting from degrees of one scale to those of another:

Fahrenheit to Duocentigrade (D): Subtract 32 and divide by .9.

Duocentigrade to Fahrenheit: Multiply by .9 and add 32.

Centigrade to Duocentigrade: Multiply by 2.

Duocentigrade to Centigrade: Divide by 2.

It will thus be seen that it is no more trouble, if quite as much, to change from duocentigrade to Fahrenheit than from centigrade to Fahrenheit, while it is only a matter of multi-

plying or dividing by 2 in converting from centigrade to duocentigrade, or *vice versa*. The latter calculation can be made mentally.

Galileo perhaps deserves credit for the discovery of thermometers. He invented a thermoscope in 1597 which was the precursor of accurate thermometers.

The original Celsius scale ran from 0° to 100°, but zero represented the temperature of boiling water and 100° freezing water. Consequently it is not altogether correct to call the present centigrade scale Celsius's scale, as is customary, for to either Linnaeus or Christin belongs the credit of inverting the centesimal scale.

Gabriel Daniel Fahrenheit invented his first thermometer in 1714. He surrounded the mercury tube with a mixture of sal ammoniac and snow which he conceived to be the greatest possible cold and marked the point the mercury registered on the column 0°. Great heat was applied, the mercury began to boil, and he called this the greatest possible heat and spaced the distance between the point the mercury column reached and zero into 600 equal parts. Thus he had a scale of 600° of which 32° reckoned from zero indicates the freezing point of water, and 212° the boiling point of water. This explains the "mysterious" figure 32 as the freezing point rather than zero.

CRITICISMS AND CRITICISMS

Have you ever considered the fact that adverse criticism directed towards a brother pharmacist reacts to the disadvantage of the entire profession as well as to the person giving vent to the criticism? A "knocking" spirit is an unprofitable quality; it even costs money to own such a trait. Deduct ten per cent. from the gross sales of the store and you will get an idea of your cost of doing business in the side line of "knocks," while two per cent. net profit will represent the indirect trade you will gain from a store room display of "boosts." When you tell a customer that Smith's Drug Store charges him too much for prescriptions just because their true value is

not known to the laity,—and much as the average druggist will doubt it, there are some men who do this sort of thing,—do not suppose for a minute that he gets the impression that your store does not take advantage of the same brand of ignorance. The customer registers a sneaking idea that it is a universal custom among pharmacists since it sounds so plausible and since even one of them has just confessed that it is done. He may even feel some contempt for this man, perhaps preferring "honor among thieves" to a give-away of the "tricks of the trade" by a confederate. Merely because he doesn't express such an opinion to you is no indication of its absence for his mind. The customer may not get the impression in a concrete form, but his confidence in druggists is certainly shaken. Doesn't that react against the "knocker?" Doesn't it eventually cost him money? On the other hand if you can convince the customer that the store he has just complained about for over-charge in prescriptions has really not "gouged" him, but that perhaps overhead expenses necessitated a somewhat greater charge than you can make him because of less expense attached to running your place, you can get the customer's future trade and yet not have him feel hostile to drug stores in general, or even to the store he deserted in your favor.

It is the difference between a fair fighter, who has regard for his fellows, and the sneaking trade "shark" who respects no other laws than legal ones *forced* upon him. This latter type is the kind who knocks his association because it doesn't return to him annually in a concrete form five dollars, or fifty dollars (depending upon the degree of *sus scrof*ishness he has gradually accumulated), as revenue for his two dollar dues.

This type of druggist is rare in North Carolina, thank Providence! He certainly is not on the JOURNAL's list of paid-up subscribers; so we are not afraid of wounding any of our comrade's feelings.

It is not expected that this harangue will do any good, but it is a pleasant sensation to break loose and let the world know that the profession of pharmacy doesn't tolerate the mali-

cious "knocker," but is proud of its silent army of workers who enlist without hope of wealth, who serve in the cause of humanity without thought of health, unconscious,—so complete is their sacrifice—that other armies are enjoying furloughs from time to time, or not envious if they do know; pushing forward always, winning battles without worldly acclaim, until finally some midnight they leave their trenches and morning finds them in a brand new, thoroughly modern pharmacy, unencumbered by debt, located on a busy corner of Paradise, and with a bright, unforced smile ready to conduct their new possessions in the way they have always dreamed of in their mental picture of the Ideal.

HELP

The Journal appeals to any charter members of the North Carolina Pharmaceutical Association for a write-up of the first meeting of the Association, together with personal reminiscences. This would prove of interest to any other charter member because it would bring up old memories, and it would make good reading for the younger members who are interested in the early affairs of their organization. We would also be glad to publish sketches of any well known state druggists.

Please remember that the Journal is dedicated to the service of every pharmacist in North Carolina, and that its pages are free for them to use. The editor asks for co-operation in presenting a quarterly periodical, the only purpose of which is the promotion of matters pharmacal. Do not wait for someone else to send in write-ups; let each person having an interest in the Journal contribute to its usefulness in the field of North Carolina pharmacy. Do it now.

INCONSISTENCY

Consistency may be a jewel; we do not propose to know, but nevertheless we agree with Emerson that "with consistency a great soul has simply nothing to do. If you would be a man, speak what you think today, in words as hard as

cannon-balls; and tomorrow, speak what tomorrow thinks in hard words again, though it contradict all you said today."

Some people would rather be wrong than to change their minds; in fact an effort to convince them they are wrong, merely succeeds in proving to them that they are right.

Professor Wilbur L. Scoville, of Detroit, has amply demonstrated that diluted fluid extracts make just as good tinctures as tinctures made from the powdered drug. This is opposed to what we have always believed, but being great admirers of Dr. Scoville, and knowing that he conducted exhaustive experiments to prove his facts, we here and now proclaim our conversion to the new faith.

EDUCATION

The new law requiring that candidates for license to practice pharmacy in North Carolina shall have successfully completed a nine months' course of study in a reputable school or college of pharmacy goes into effect January 1, 1918. The applicant for registration must also have had four years' practical experience in a drug store, attendance at a school of pharmacy being allowed to count for one of these years.

We feel certain all progressive druggists will agree that the law is a good step in the right direction. It is a tribute to the persistent efforts of the members of the North Carolina Pharmaceutical Association who have fought for years to get the measure through the Legislature. Though the law goes into effect in January, it really will not be applied until the June meeting of the Board of Pharmacy in 1918. An unregistered clerk, not to be affected by the new law, must have started work in a drug store not later than November, 1914, and even one beginning then must be successful in his first try at the examination, or else work another year.

There will be those who say the law must work a hardship upon poor boys. Of course it will—what in life doesn't? A poor boy, or man, or woman, is necessarily handicapped by a lack of means to do this, that, or the other, but the struggle to lift the handicap should eventuate in a hidden blessing. If

the profession of pharmacy is worth following for life, it is worth a struggle to enter into, and the "poor boy" who will be daunted by the prospect of securing nine months' technical education belongs to the class that *ought* to be eliminated from the ranks, for he will prove a drag, not only to himself, but to all of us.

An apprenticeship in a drug store, however essential, is not enough, no matter how much pains and time the preceptor gives to his apprentice. (How many preceptors in these busy days give *any time* to training their young clerks in other things than how to approach a customer and make sales in the front?) There must be a period in the career of the pharmacist-to-be given over solely to careful study of the processes involved and principles embraced in his chosen work, and this study cannot be made at night after a hard day in a store, and certainly not during the day amid countless distracting elements. He must be free to pursue his studies. And he must have an experienced teacher to direct his studies if he is to obtain knowledge proportionate to the time involved, and if he is to have the grain separated from the chaff. A correspondence course will not suffice either, for it is an exceptional student who can apply himself diligently away from a school. It is the fact that everyone else is doing the same thing that makes a student work better at school or college than at home.

Graduation from a college of pharmacy may never have made a worthless clerk into a successful druggist, but it has made him more successful than he would otherwise have been. Compulsory education for the pharmacists was bound to come, and in larger and larger doses, and we might as well get reconciled to the idea.

LEGISLATION NEEDED

How many hours per day is a railroad company allowed to work its locomotive engineers? How many hours per day is a pharmacist allowed to work? *Both hold lives at stake.*

I had just as lief die in a train wreck resulting from inefficiency or over-strain on the part of the engineer, as swal-

low a lethal dose of poison accidentally dispensed by a druggist irresponsible from over-work. Of course the engineer may cause dozens to be killed, while a pharmacist would hardly get more than one at a time, but if you are that one, your solitary demise would prove just as annoying as if you had company.

If the size of the town does not warrant an all-night prescription clerk, why not go to see your competitors and suggest closing at seven, eight, or nine o'clock in the evening, except for one store which might be kept open until midnight, or after? The stores could rotate in keeping the late hours. We should be glad to hear from our readers in this regard.

PHARMACISTS THEN AND NOW

To illustrate one phase of the progress of North Carolina pharmacy during the last thirty years, the list below was compiled.

The facts are signifigant, for if a town's development, or decline, is in proportion to the number of registered pharmacists gained or lost during a certain period—and this we believe is true to a certain extent—we see that while a few of the old towns in the eastern part of the state now have fewer druggists than in 1882, yet by far the greater majority of the towns show a marked increase. This last is notably true of Durham and Winston-Salem, both of which show a sevenfold, or 420 per cent, gain in pharmacists in the period between 1882 and 1912.

City	No. of Pharmacists 1882*	1912*	Per Cent Gain	Per-Cent Loss
Durham	5	35	600	
Winston-Salem	4	28	600	
Asheville	5	26	420	
Greensboro	7	35	400	
Charlotte	15	54	260	
Salisbury	6	18	200	
Raleigh	16	42	160	

*Taken from "List of registered pharmacists in North Carolina" in Proc. N. C. P. A. for 1882 and 1912.

Concord	5	10	100	
Tarboro	7	13	85.7	
Wilmington	19	35	84.2	
Kinston	5	9	80	
Fayetteville	8	14	75	
Goldsboro	8	12	50	
Wilson	7	9	28.5	
Weldon	7	2		71.4
Beaufort	5	2		60
Washington	8	4		50
Elizabeth City	9	7		22
New Bern	14	12		14.2
	295	869		

STANDARDIZED DRUGGISTS vs. UNIFORM PHYSICIANS

A very pompous practising physician, who had studied a little pharmacy before entering medicine, wrote to the editor of the JOURNAL in the early part of the fall, and in a characteristic medical tone, wanted to know "why in the devil" it was that he couldn't find any two druggists carrying the same strength tinctures and fluidextracts. "Why," he said, "I wrote a prescription at ——'s Drug Store on Monday calling for tincture of digitalis, and the clerk dispensed a fluid he had prepared by diluting a fluidextract of digitalis which I happened to know was not 100 per cent strong. Naturally the tincture was below strength too, since he diluted it in the proportion of 1 to 9. At another store I inquired concerning the method of preparing laudanum, and I found to my surprise that the proprietor, an old-line druggist, was making the stuff according to the formula he had always used, but employed *granulated* opium (12.5%), instead of *gum* opium (9%). The product contained $^{12}/_{9}$ more morphine than it should have contained. My curiosity having been aroused, I made it a point to keep my eyes 'peeled' while I was behind the prescription counters of the several stores in our town. Not long afterwards I found a certain clerk making spirit of camphor. Being economical, he used 8 instead of 10 per cent. of camphor. I noticed his weights and

measures while carrying on a conversation about baseball. That same store used 25 per cent simple syrup in its Coca Cola syrup, for I saw the soda boy adding it. Again, I have occasionally observed that clerks while filling prescriptions hurriedly may not take the trouble to effect complete solution while rubbing up salts with solvents, but throw the excess undissolved matter away in the sink. Then too, the scales used in many drug stores are very cheap and lack much of being accurate. Dirt is allowed to accumulate upon the pans, which of course adds to the inaccuracy. While not always the case, yet often when I write a prescription for Aspirin, my patient is given acetylo-salicylic acid, *generally at Aspirin prices.* You pharmacists are always kicking about the lack of respect shown druggists by physicians. Why don't you instead educate your students to be scientific and conscientious? Then the respect desired will be deserved and cheerfully accorded. WHY DON'T YOU STANDARDIZE?"

Shades of "Pills and Piracy"!!! What we wanted to answer and what we did answer represent two extremes.

We admit that in exceptional cases, the physician's accusations may be just, but they should be directed against the guilty parties and not leave the inference that all druggists are of the same type, since collectively pharmacists are as honest as any professional men to be found. Furthermore druggists many, many times find opportunities for criticising certain physicians, but always withhold their criticisms because ethics forbid throwing brick-bats; also because they know such criticisms reflect upon all physicians instead of the guilty ones only. "Why don't you *standardize?*" To think of standardized physicians is to laugh. One doctor says drink two glasses of water with every meal; another says this is dangerous procedure. The Woods Hutchinson school recommends eating what you naturally crave and as much; the Eugene Christian class would have you starve to death slowly, while Fletcherism condemns you to a cud-chewing existence. One doctor says take a cold plunge every morn-

ing; another advises tepid water; still another thinks either will probably injure you. Calomel is given you every time your stomach hurts by one type of physician, while the drug is condemned except in severe cases by another type. "Dope the pain with morphia" is the slogan of some, though not many; remove the cause and let Nature take her course, replies another group, while sandwiched between are empirical and rational (and irrational?) therapeuticists. One reputable physician calls your disease valvular heart trouble; another says superacidity in the digestive tract. And so it goes. Evidently there is not much standardization in medicines, either dispensed or prescribed. This somewhat facetious editorial is not written for the purpose of discounting the physician, but merely to show that a cutting axe is sometimes double edged.

MORE ENLIGHTENMENT NEEDED

The North Carolina Pharmacy Act requires that an applicant for license to practice pharmacy shall have had three years' practical experience in a drug store (of which one year may be secured in a school of pharmacy). The law goes further and demands that this experience shall be gained under a registered pharmacist while assisting in compounding and dispensing physicians' prescriptions Experience gained at a soda fountain, or even the front part of the store, does not suffice unless supplemented by experience in filling prescriptions under the direction of a licensed druggist.

So many young clerks work out their apprenticeship under the impression that mere employment in a drug store will serve the demands of the law, regardless of the nature of the work, and are sadly disillusioned when applying to their employer to find that he will not "sign up for their time" because they have never done any prescription work. The writer has known many students who came to the University to study pharmacy, who were satisfied about having worked out their "time", to find after reaching here that their preceptor refused to give them their experience. The student

would then have to stop school, go out and work again for the required experience, return to school for a "quiz" to "brush up", and then take the State Board examination, a wiser, sadder, madder man. This doesn't happen at long intervals, but *every year*.

Who is to blame, the apprentice or the registered employer? Both. But the greater blame is with the latter. We say the clerk is to blame, for he obviously took so little interest in his chosen profession as to be ignorant of a big feature of entering into it, and he should be chastized for his carelessness, but he doesn't deserve such punishment as he gets. The employer owes it to his sense of justice not only to advise a clerk who he knows expects to be a druggist, of the requirements necessary to become one, but also to instruct him in filling simple prescriptions, and preparing various mixtures and galenicals, in order that the experience may be conscientiously signed-up.

Were the editor in a position to do so, he would make it obligatory upon the part of every drug store proprietor in the state to have a set of the North Carolina pharmacy laws framed and hung up in the store, and further, to see that his clerks read the laws, for a knowledge of them is essential.

A BRIEF HISTORY OF EARLY PHARMACY

By J. E. Turlington, Class of 1916

Ages ago among the Greeks, the word "Pharmacy" associated itself with any kind of drugs, potions, poisons, and also with witchcraft. There has been a constant evolution in its meaning since then, and instead of us entertaining an idea of "hoodooism" in regard to it as did the Grecian ancients, the term suggests to us a science treating of medicinal substances with a comprehension of medicines and the art of preparing, identifying, selecting, preserving and dispensing them, according to a physician's prescription.

In almost the earliest period of the world's history of which there is any record, the art of pharmacy was carried on. A certain class of priesthood practiced it. We read of a member of the type in the Book of Numbers of the Old Testament. At that time medicine and pharmacy were closely allied and were almost solely under religious control. An old Eygptian inscription preserved until today, indicates that the physician-priests sent their prescriptions to their brother priests, the apothecaries, to be compounded. Again in the Old Testament, we find the art of the apothecary alluded to in Exodus 30:25-35, and in Ecclesiastes 10:1.

The physician-priests were forbidden to shed blood; surgery was left by them for the barbers to do. To advertise this practice, the barbers used a colored pole which represented the application of bandages. Even when this class of people stopped doing surgical work, they retained their quaint advertising colored pole, and still use it today.

Two of the foremost races of people who practiced pharmacy to any great extent were the Chinese and the Arabians. One of the most skilled of the early Chinese apothecaries was Ching Hong, a contemporary of Menes of Egypt. There has always been a prevalent belief among the Chinese that animal excrements retain all the characteristc properties of the animals from which they come, and for centuries the excretions have been used as medicines by that nation. Super-

stition, too, held its sway, and we find that they also used various parts of the criminal, such as the powdered human skull, or thigh bone, for medicinal agents.

For the gradual advance of pharmacy, we are indebted to the Arabians more than to any other race. It was they who first introduced the more complicated processes of the profession, such as preparing tinctures, making syrups, etc. During the Dark Ages and years afterwards, the Arabians published many books on the subject of pharmacy: so when the revival of learning brought about a greater civilization throughout the whole world, different nations began to publish dispensatories, copying a great part from the Arabian publications, and as a result the progress of the Arabians in this direction was overshadowed.

All prescriptions written by the early Arabians were headed by ℞. The symbol at that time was an invocation to Jupiter, whom people worshipped as a god. Prescriptions by all physicians are still headed by the same sign, but now it is just an abbreviated form of the Latin word "recipe," which means "take thou" (of).

Literature relative to pharmacy which is still in existence dates back centuries before Christ, and in the first century A. D., Dioscorides, of Anazorba, wrote a book on Materia Medica. It was quite an authoritative treatise and was used as a valuable guide up until the seventeenth century. After the work of Dioscorides, there was practically no more done until the sixteenth century, except by the Arabians, whose activity I have already mentioned.

Sometime during the sixteenth century, a chemical sect first introduced the distinction between "Galenical" and "Chemical" preparations, and in the same century the earliest formulas for preparing medicines published under authorities were issued by the order of the Senate of Norimberg. From that time until the beginning of the nineteenth century, dispensatories continued to be published in abundance. Quoting from Parr's Medical Dictionary, which was published in 1819, in regard to these early works: "All these works are in many

parts confused and complicated. The ingredients of the composition are numerous and contradictory, and of the greater number, it is difficult to ascertain the design.....

"The Dispensatories in the 18th century were too numerous to be particularly mentioned. The mere 'muster roll of names' would fill our page. Every country of Europe now (1819) has its own pharmacopoeia established by authorities."

That the practice of pharmacy was a highly respected profession in the early days is evidenced by these few excerpts from a Dispensatory written by Renoldaeus of Hanover in 1631: "Probity is no less necessary in a Pharmaceutist who prepares medicines for the preservation and recovery of health than in a philosopher; for in his hands are disease and health, death and life. If ignorant or malicious, he is able essentially to injure or to kill. A pharmaceutist should therefore, be as conscientious as Socrates.

"Principally, he ought to be religious, to reverence the Almighty, wholly free from envy and malice, sound in mind, acquainted with grammar, neither indigent nor covetous, and able to bear fatigue both by day and night.....

"Drunkards, buffoons, mimics, chatterers, impostors, and mountebanks, who deceive by trifling, fraud, boasting, vain promises, flattery and lies, who thus exhaust the purses of the common people are unworthy the name of Pharmaceutists.....

"Since the subject of medicine and pharmacy are the same, viz., the human body is susceptible of either disease or health, the physician and the apothecary must have many common qualities, such as prudence, probity, diligence, and a knowledge of medicine. But since pharmacy is subservient to physic, and has only for its object the medicine itself, or its due form, when the pharmaceutist proceeds farther, he becomes a quack and a cheat."

Chapel Hill, N. C.

E. W. O'HANLON STORE & OFFICE BUILDING.
WINSTON - SALEM N. C. WILLARD C. NORTHUP - ARCHITECT.
Courtesy of Twin-City Daily Sentinel

O'Hanlon's Drug Store occupies the entire ground-floor of this building; a store which is modern to the last detail.

Courtesy of Twin City Daily Sentinel

EDWARD WILKINS O'HANLON
Winston-Salem
Twenty-second President of the North Carolina Pharmaceutical Association

Born in Fayetteville, educated at the Maryland College of Pharmacy, possessed of pluck, energy and a straightforward, fighting spirit, Mr. O'Hanlon has built a fitting monument to his genius, and is today the State's leading professional-commercial druggist.

STRAY ITEMS

S. B. Penick & Co., of Marion and New York City, crude drug firm, was awarded a gold medal for their superior exhibits of botanical drugs at the Panama-Pacific Exposition.

Dr. C. P. Greyer, of Morganton, recently elected a member of the N. C. Board of Pharmacy, has remodeled his store.

The Westbrook Drug & Floral Co. has opened a store on 5th Street, opposite the post office, in Winston-Salem.

Farris-Kluttz Drug Co., Greensboro, remodeled its store in the early fall.

E. W. O'Hanlon has just completed in Winston-Salem an eight-story drug store and office building. A cut of this building appears on another page of the JOURNAL. This is one of the handsomest, if not the handsomest, drug store in the entire South, and is a tribute to Mr. O'Hanlon's progressiveness. Winston-Salem is to be congratulated upon securing such drug service as this company proposes to offer. The day before "O'Hanlons" opened, the local evening paper carried two eight-page sections devoted entirely to descriptions of the new store and to advertisements of firms who assisted in constructing the building. Sixteen pages about one drug store in North Carolina is unprecedented. The JOURNAL wishes the new store every possible success.

Be obliging and civil, but not servile. Servility is as bad as discourtesy. Self-respect is respected by all, required of all. Courtesy costs nothing but patience, and pays a steady dividend. A polite refusal is better than an unwilling action. —*Albeck in the Spatula.*

The Beta Xi chapter of the Kappa Psi Fraternity at the

University of North Carolina has initiated the following students: E. D. Ledbetter, (Phar.); Carl Sutton, (Phar.); W. F. Townsend, (Phar.); J. E. Perry, (Phar.); B. W. Walker, (Phar.); R. H. Dickson, (Med.); E. Dickson, (Med.); Pitts, W. (Med.); F. Angel, (Med.).

The Journal is in receipt of the following letter from John Uri Lloyd, of Cincinnati, a former president of the American Pharmaceutical Association, and a progressive manufacturing pharmacist:

Mr. J. G. Beard, Editor,
The Carolina Journal of Pharmacy,
Chapel Hill, N. C.

My Dear Mr. Beard:

I am just in receipt of The Carolina Journal of Pharmacy, No. 1 and No. 2, of which you are the Editor. The opening number brings to me most pleasurable recollections of the past, for the frontispiece carries the portrait of Mr. William Simpson, one of my personal friends in days gone by. Please, therefore, accept my personal thanks, to which I will add that, in my opinion, you could have made no more graceful introductory token in your opening number than to have given to the many friends of Mr. Simpson the admirable portrait thus presented.

Let me hope that your Journal may be in every wise successful, to which I will add that it would please me much to personally meet the Editorial Staff when opportunity offers

I have directed that your Journal be placed on the subscription list of the Lloyd Library, in which direction the Librarian will personally write you.

With my kindest regards and best wishes, I am,

Sincerely yours,

John Uri Lloyd.

P. S.—I take it you will reach Georgia subscribers. It would be a graceful act to frontispiece Mr. Ingalls, of Macon. He was a progressive pharmacist.

EDITOR OF DRUGGIST CIRCULAR

Dr. H. V. Arny, who for the last year has been editor of the *Druggist Circular,* has resigned his position because of the heavy demands on his time as professor at the New York College of Pharmacy and will hereafter devote himself entirely to his college work. Francis B. Hays, who was for many years editor of the *Circular,* will return and take up his duties. Mr. Hays spent last year at his home in Oxford, N. C., recovering from his recent illness.

DR. HERTY AGAIN HONORED

The JOURNAL congratulates Dr. Charles Holmes Herty, head of the department of chemistry in the University of North Carolina, upon his re-election as president of the American Chemical Society. This indeed is a high honor for it is not customary for this Society to re-elect its presidents.

Not only is Dr. Herty to be congratulated, but also North Carolina and the University, for only three chemists from the South have ever been promoted to this high office. It is very significant that two of these have been University of North Carolina men: Dr. Francis P. Venable, former president of the University, and Dr. Herty.

Former pharmacy students in the University remember Dr. Herty for his entertaining lectures on Chemistry 1 and his intense interest in Carolina athletics, and they too feel proud of the degree of eminence Dr. Herty has reached in his profession, and will watch his leadership in 1916, secure in the knowledge that sound executive ability will be displayed by him.

A recent photograph of Dr. Herty appears on another page of this issue of the JOURNAL.

A. PH. A. EDITORIAL OFFICE MOVED

The editor of the *Journal of the American Pharmaceutical Association,* E. G. Eberle, has recently moved the editorial offices of the *Journal* from Cincinnati to Philadelphia. Dr. Eberle, it will be remembered, was until last year editor and

owner of the *Southern Pharmaceutical Journal*. He was succeeded by W. H. Cousins, of Texas.

HOW HERR HOWELL HUNTS HEREAFTER

Dean E. V. Howell, of the Pharmacy School of the University of North Carolina, has purchased jointly with several other sportsmen an entire island off the coast of North Carolina as a hunting preserve. An inventory of this island shows dozens of deer, as well as bear, ducks, and small game in abundance; boats, tents,—and to cap the climax—a commodious house completely furnished, even to silver and table linen.

Friends of Dean Howell can picture him on his island, surrounded by game just hard enough to bag to prove exciting, and with plenty of *aqua marina* in which to fish and bathe. Doubtless, too, former campmates of his can conjure up a mental likeness of how he will appear some morning after having got a "ducking" in the marshes hunting ducks. And then the tales he'll tell after coming back to Chapel Hill!

OFFICERS-ELECT OF AMERICAN PHARMACEUTICAL ASSOCIATION, 1916-1917

The Board of Canvassers met November 4th and have reported the following as the result of the election of officers for the year 1916-17:

President—Frederick J. Wulling, Minneapolis.

First Vice-President—Leonard A. Seltzer, Detroit, Mich.

Second Vice-President—Lucius E. Sayre, Lawrence, Kansas.

Third Vice-President—Philip Asher, New Orleans, La.

Members of the Council—James H. Beal, Urbana, Ill.; William C. Alpers, Cleveland, Ohio; Harry B. Mason, Detroit, Mich.

JOHN FREDERICK SPRAGUE

On the 28th of last October, died at his home in the city of Raleigh, John Frederick Sprague, a gentleman whose life had been spent largely in the drug business and who was a prominent member of the Pharmaceutical Association of this State.

Mr. Sprague was born in Morganton, N. C., August 31st, 1861. He was the son of the late Henry B. Sprague and Dorcas Malvina (Happolat) Sprague. In early manhood he entered the drug business and held positions successively in Wilmington and Raleigh. Later he accepted employment with the wholesale house of Sharp and Dohme, manufacturing chemists of Baltimore and Norfolk, and represented their interests over a wide territory at the South. His ability and success in organizing and extending the business of the house in this territory was quickly recognized and he was called to New York as the head of the sales department of Sharp and Dohme. In this position he remained a number of years, an effective manager of his department, enjoying in fullest measure the confidence of his employers, and eliciting the loyal cooperation and personal affection of his associates in a remarkable degree. Indeed no one could be thrown into close relation with John Sprague without feeling drawn toward the warm-hearted, courteous gentleman, the honourable and fair-minded man. But his heart ever turned toward his native State and he at length resigned his position in New York to return to North Carolina.

He selected Raleigh for his home. His acquaintance there was wide and intimate, and his wife was a Raleigh lady. On December 11, 1894, he had married Miss Kate Badger Hale, daughter of the late Peter Mallett Hale, and Mary (Badger) Hale. Mr. Hale was for many years a distinguished editor of the Capitol City. Mrs. Sprague and an only child, John F. Sprague, Jr., survive him.

In Raleigh Mr. Sprague built a beautiful residence, and here he went into business, acquiring an interest in the W. H.

King Drug Company, of which he was president. Under his skilful management the business was greatly extended. But his energies were seeking wider outlets. He became president of the West Virginia and Pittsburg Land Company. His sound judgment and business experience led to his services being claimed for the state, and he was appointed by Governor Craig a director of the Atlantic and North Carolina Railroad.

Mr. Sprague's force of character, his sanity of judgment, and his business success seemed to mark him out as but on the threshold of larger usefulness. But his health failed months ago. For a long time he suffered bravely and without a complaint, ever tenderly solicitous for those dearest to him, and considerate of all who approached him. Medical skill, however, was helpless, and the end came at last.

Genial and warm-hearted, full himself of the zest of living, interested in and sympathetic with others, he drew to himself a wide circle of friends who feel his loss as a personal bereavement. In all the relations of life he was generous, true and loyal. But especially did his thoughts and affections center about his home, and friends will fondly recall happy memories of the ideal family life about his fireside. L. P. M.

PERSONALS

Claud Cates of Burlington has retired from the drug business and has accepted a position as assistant postmaster in the Burlington office.

J. K. H. Houston, formerly with the Justice Drug Company of Greensboro, has purchased the Augustus Bradley Drug Store in Burlington.

George Isley, of Burlington, formerly with the Freeman Drug Co., has gone to Greensboro to be with Justice Drug Company, as chemist.

B. F. McMillan, of Red Springs, is prescriptionist for J. P. Stowe & Co., of Charlotte.

Dr. A. L. Pendleton, proprietor of the Standard Drug Co., Elizabeth City, is city postmaster.

Frank Holt, formerly with Kennedy's Drug Store, Gastonia, is now employed by the Robinson Drug Co., at Lowell.

E. L. Tarkenton, president of the North Carolina Pharmaceutical Association, completed his new home in Wilson during the early fall. It is reputed to be one of the handsomest residences in that town.

W. H. Beasley is prescription clerk for the Wilson Drug Co., Wilson.

Sam—"Come in and have a drink with me."

Bill—"I would but for three reasons: first, I do not think it is right to drink; second, I promised my mother I wouldn't drink; and third, I have just had a drink."

NEW STORES

The Monroe Drug Company is the style of the firm of a new company opening a drug store in Monroe.

Byerly and Cherry Drug Company have opened a drug store in Winston-Salem on North Liberty Street, opposite the Fairview Drug Co.

Cash Drug Co., Middlesex, recently chartered. Capitol stock $1000 to $10,000; par value $50. C. W. Parker, President; L. N. Hand, J. Elmer Daniels, and D. D. Brown are owners.

VARIETY

Auto Customer—"What have you in the shape of automobile tires?"

Facetious Clerk—"We have funeral wreaths, air cushions, life preservers and doughnuts. What would you like?"—*Exchange.*

SPECIAL ATTENTION—Drug Stores (snaps), also jobs. All states. Physicians, Dentists, Veterinarians, furnished, and practices sold. F. V. Kniest, Omaha, Nebraska. Established 1904.

DR. CHARLES HOLMES HERTY

Recently re-elected President of the American Chemical Society. Dr. Herty, as head of the Department of Chemistry in the University of North Carolina, has always been interested in, and has labored for, the cause of pharmacy in this State.

ALUMNI NOTES

Lester Reeves, 1910, is manager of the City Drug Co., Burlington.

Hugh Layden, 1903, of South Boston, Va., has sold his store at that place and is at present making Burlington his home.

Homer Andrews, Ph. G., 1914, P. D., 1915, of Chapel Hill, is with the Houston Drug Company, of Burlington.

Eugene Rimmer, 1913, of Tarboro, has accepted a position with the *Druggists Circular* in New York City. Another North Carolinian associated with this drug journal is F. B. Hays, of Oxford.

C. L. Cox, Ph. G., 1913, of Warsaw, now owns a store in Clinton.

John S. Harper, 1915, Snow Hill, is located with the Patterson Drug Co., Wilson.

"Ike" Zuckerman, Ph. G., 1911, is manager of the Fulton Drug Co., Durham.

J. F. Andrews, Ph. G., 1915, is prescriptionist for Haywood & Boone, Durham.

W. C. Bateman, 1904, Asheville, is a biological and pharmaceutical detail man for H. K. Mulford Co., Philadelphia.

E. W. Barnes, 1904, is with the Mauney Drug Co., Kings Mountain.

H. M. Bell, 1904, is Secretary-Treasurer of the Windsor Pharmacy Co., Windsor.

D. T. Briles, 1915, is with Horne's Drug Store, Fayetteville.

Samuel Carter, 1906, has charge of Smith's Drug Co., Salisbury.

B. T. Dawson, 1909, formerly with R. E. L. Cook, Druggist, Tarboro, is at present with Fulton's Drug Store, Durham.

A. G. Webb, Ph. G., 1912, one of the proprietors of the Carolina Drug Co., Chapel Hill, is to open a "Smoke Shop" at an early date.

A. L. Fishel, Ph. G., 1914, P. D., 1915, Winston-Salem, winner of the Hancock medal for leading the State Board in June, 1915, is an assistant in the pharmacy laboratories at the University.

J. E. Turlington, 1916, Benson, also is an assistant in the laboratories.

Chas. M. Fox, 1907, is proprietor of the Asheboro Drug Co., Asheboro.

R. T. Gregory, 1899, owns a nice drug store at Stovall.

Dr. C. D. Gruver, Ph. G., 1899, is practicing medicine at Stroudsburg, Pa.

J. L. Henderson, P. D., 1915, Hickory, analytical chemist for S. B. Penick & Co., Marion and New York, has been transferred from Marion to the New York branch. Dr. Henderson is to be married February 15th to Miss Moffitte Duart Sinclair, of Marion.

W. F. Holland, 1906, is part owner of the Holland Drug Co., Mount Holly.

J. K. Hollowell, 1903, is manager of the Broad Street branch of the Bradham Drug Co., New Bern.

J. L. Howerton, 1901, owns a handsome drug store in Greensboro.

T. W. Kendrick, Ph. G., 1899, a member of the first graduating class of the University School of Pharmacy, owns a successful store in Charlotte.

L. C. Kerner, 1899, is manager and part owner of the Kerner-McNair Drug Co., Henderson.

H. L. King, 1903, is manager of C. E. King & Sons Drug Co., Durham. He owns an interest in the above named firm, also in the West Durham Drug Store, and a new store in Durham which the Journal has not yet learned the name of.

J. E. Koonce, 1903, Chadbourn, owns a large interest in the Withers and Brown Drug Co.

P. A. Lee, 1904, is part owner of Wilson & Lee, a drug Company in Dunn. Mr. Lee is a member of the Executive Committee of the N. C. P. A.

Dr. J. B. LeGwin, Ph. G., 1904, is practicing medicine at Wilmington.

W. P. McCraw, 1907, is a member of the firm of the McNair Drug Co., Tarboro.

L. W. McKesson, 1903, is part owner and manager of stores 1 and 2 of the Statesville Drug Co. He also owns an interest in McKesson and Munday Drug Store of Taylorsville.

W. L. McKinnon, 1900, is secretary of Parson's Drug Store and of the Pee Dee Pharmacy at Wadesboro.

Fred M. Patterson, Concord, member of the graduating class of 1916, has been elected captain of the 'Varsity baseball team of the University of North Carolina for the season of 1916. Captain Patterson plays first base on the team, is a good fielder and a consistent batter, and should make a good leader.

T. R. Pemberton, 1904, is owner of the Ashboro Street Pharmacy, Greensboro.

Clarence ("Doc") Pickard, 1908, is a member of the firm of J. F. Pickard Grocery Co., Chapel Hill.

T. F. Rhodes, Ph. G., 1903, is part owner of the Red Cross Pharmacy, East Stroudsburg, Pa.

T. H. Schutt, 1906, is a member of the firm of Schutt Brothers, Wilmington.

C. H. Smith, 1899, is vice-president and manager of Jno.. S. Blake Drug Co., Charlotte.

D. W. Tart, 1905, owns a drug store at Roseboro.

W. H. Canady, Ph. G., Medical College of Virginia, 1911, who passed the Board from Carolina with the class of 1915. is employed by D. H. Saunders Drug Co., Four Oaks.

E. V. Woodard, 1909, is with the Richardson Drug Co., Selma.

J. G. Beard, Ph. G., 1909, is a member of the faculty of the University Pharmacy School and editor of the CAROLINA JOURNAL OF PHARMACY.

Aubrey McDaniel, 1915, is prescriptionist for the Whitehead Drug Co., Scotland Neck.

George Byrd, 1916, winner of the J. G. Beard N. C. P. A. prize for leading the Junior pharmacy class while in school, is prescriptionist for Welfare's Drug Store, Winston-Salem.

N. L. Beach, 1916, has accepted a position in O'Hanlon's handsome new drug store in Winston-Salem.

Nello Merritt, 1916, is also in Winston-Salem, being employed by McArthur's Drug Store. Mr. McArthur, it will be remembered, led the State Board candidates for highest mark in 1908, thereby winning the Hancock medal. He graduated the same year.

N. W. Lynch, 1905, will open a drug store on South Church Street, Charlotte, during January.

Hick—"This match you gave me won't light."

Hike—"That's funny. It lit all right a minute ago."—*Michigan Gargoyle.*

When Rastus Johnsing's son arrived,
He looked just like his popy.
In fact, the doctah done declared
He was a carbon copy.—*Cornell Widow.*

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THOS. J. WILSON, JR., Registrar.

Price List and Special Offer

To the Retail Druggists of the United States Only

Except Washington, Oregon, California, Idaho Montana, Nevada, Utah, Arizona, New Mexico and El Paso, Texas.

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SUPERSEDING ALL PREVIOUS LISTS, DISCOUNTS AND SPECIAL OFFERS

Bromo-Seltzer, small, per dozen	$ .75
Bromo-Seltzer, medium, per dozen	2.00
Bromo-Seltzer, large, per dozen	4.00
Bromo-Seltzer, $1.00 size, per dozen	8.00
Emerson's Relief for Cold in the Head, per dozen	.80
Emerson's Rheumatic Remedy, per dozen	4.00

On Orders Amounting to $20.00 and Upwards
Your Jobber Will Allow You a 10% Trade Discount

We will be pleased to print a card, advertising any of your own preparations (if you will enclose a label of such preparation) not conflicting with Bromo-Seltzer on 300 memorandum books and also 300 paper bags (¼, ½ and 1 lb.) with your name and address printed on same and send you 100 tape-measures and three signs with other attractive advertising matter, with your order.

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Edward Lawrence Tarkenton, Wilson, N. C.
The Thirty-sixth President of the North Carolina Pharmaceutical Association.

EDWARD LAWRENCE TARKENTON

Edward Lawrence Tarkenton was born in Halifax County, November 7, 1874, a son of Sarah J. and Joseph Tarkenton.

At the age of fifteen he began working in a drug store doing odd jobs, such as washing bottles, sweeping the store, etc., receiving but small pay. When seventeen years old he definitely decided to make pharmacy his life work, and accordingly entered college with this aim in view. At the end of two years he went to Baltimore to seek employment in a drug store and to take a course in pharmacy.

After spending considerable time in Baltimore he returned to his home in Plymouth, N. C. A short while later he accepted a position in the drug store of W. H. King, of Raleigh, as an assistant prescription clerk. By devoting all his spare time to study (under the direction of the late William Simpson of Raleigh) he was enabled to pass the examination of the North Carolina Board of Pharmacy. This was in 1901. He accepted employment soon thereafter with the Bobbitt-Wynne Drug Co. in the capacity of manager. Some time later he became manager of the Tucker Building Pharmacy, Raleigh.

But the confining life of a druggist soon became detrimental to Mr. Tarkenton's health. Realizing this fact, he sought traveling work with Parke, Davis & Co., of Detroit, and was successful in 1905 in securing a position as detail man in Baltimore and Washington. Later the territory of western Tennessee and eastern Kentucky was given him. After holding this position for three years, and feeling in better health, he decided to allow his longing for the life of a retail druggist free rein, and accordingly he went to Wilson, where he became president and half-owner of the Patterson Drug Co.

It was in Wilson that Mr. Tarkenton met and married Miss Frances Clark Moye; the wedding taking place July 3, 1908.

Mr. Tarkenton owns half interest in the Patterson Drug Co. He is president of this prosperous drug business. He is a staunch member o. St. Timothy's Episcopal Church; in fact, is secretary of the vestry of this church.

Mr. Tarkenton has long been identified with the North Carolina Pharmaceutical Association. He has written many valuable and entertaining papers for the annual meetings. It was in recognition of this fact that President Goodman, in 1914, appointed him chairman of the Papers and Queries Committee, which position he still holds. The Association further honored him in 1912 by electing him to the office of Third Vice-President. He was made Second Vice-President in 1913, First Vice-President in 1914, and at Durham, in 1915, the Association delegates unanimously elected him President of the Organization. He will, therefore, preside over the thirty-seventh annual meeting of the Association to be held in Wrightsville in June.

Mr. Tarkenton is also an associate editor of the Carolina Journal of Pharmacy. He is a druggist who combines courtesy with courage, and ethics with energy; who loves his profession and fights for it; who has an enthusiasm and a determination to help bridge all gulfs that separate the commercial pharmacist from the professional pharmacist, to effect an amalgamation of the two. Always a hard worker; a staunch contender for what he conceives to be the right; an idealist, in a sense; he is a druggist who has risen by the force of his own perseverance and efforts until today he commands the respect, the admiration, and the love of his co-laborers in the field of North Carolina pharmacy.

The

Carolina Journal *of* Pharmacy

Published quarterly by the William-Simpson Pharmaceutical Society of the University of North Carolina School of Pharmacy at Chapel Hill.

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J. L. Henderson, Class of 1915.....*Burlington*
R. A. McDuffie, Class of 1915.....*Greensboro*
J. E. Turlington, Class of 1916.....*Chapel Hill*

EDITORIALS

This is the Association number of the Journal.

It completes the first year of the Journal's existence.

One of the primary objects of the editorial staff of the magazine has been to help further the cause of both the American and the North Carolina Pharmaceutical Associations in this State. The Journal believes so firmly in organization and coöperation as the final salvation of druggists that it shall ever strive to be a helpful agency in bringing the North Carolina Pharmaceutical Association to that point where it will be, in fact as in fancy, the instrument through which our pharmacists can and will work towards their professional ideals.

OUR BOARD OF PHARMACY

The North Carolina Board of Pharmacy was created by an act of the Legislature of 1881, as a result of active, energetic efforts by the North Carolina Pharmaceutical Association.

The original members of the Board of Pharmacy examiners, five in number, were appointed by Governor Jarvis. These members were:

W. H. Green.....Wilmington
William Simpson .....Raleigh
A. S. Lee.....Raleigh
E. M. Nadal.....Wilson
E. H. Meadows.....New Bern

The members of the Board are commissioned by the Governor of the State for a term of five years. Five men compose the membership of the Board. The term of one member expires every year. As a member's term expires the North Carolina Pharmaceutical Association, at its annual summer session, elects a successor, who must be a resident member of the Association. The successor's name is sent to the Governor with a request that he commission the member named. This appointment must be made according to the wishes of the Association, and is dated April 28. The new member begins service at the next succeeding meeting of the Board of Examiners (June). The members of the Board elect their own president, as well as a secretary-treasurer.

The present personnel of the Board is as follows (arranged according to seniority):

E. V. Zoeller, President, Tarboro.....Term expires April 28, 1917
F. W. Hancock, Sec.-Treas., Raleigh.....Term expires April 28, 1919
W. W. Horne.....Term expires April 28, 1920
I. W. Rose.....Term expires April 28, 1918
C. P. Greyer.....Term expires April 28, 1921

A member whose term expires April 28, 1916, for instance, is either reëlected or has a successor elected at the summer Association meeting of 1915.

The list below gives the names of all the men who have served on the Board of Pharmacy, and when. The first year mentioned in each case is the time when member was elected by the Association. The member's appointment followed in April of the next year.

W. H. Green	Wilmington	1881-1885
William Simpson	Raleigh	1881-1902
A. S. Lee	Raleigh	1881
E. M. Nadal	Wilson	1881-1889
E. H. Meadows	New Bern	1881-1885
John Tull	Morganton	1882-1886
F. W. Hancock	Oxford	1887
H. R. Horne	Fayetteville	1887-1895
T. C. Smith	Asheville	1887-1890
W. C. Porter	Greensboro	1888-1891
A. W. Rowland	Wilson	1890-1893
E. V. Zoeller	Tarboro	1891 to date
W. H. Wearn	Charlotte	1892-1902
P. W. Vaughan	Durham	1894-1897
O. M. Royster	Hickory	1894-1895
N. D. Fetzer	Concord	1896-1898
F. W. Hancock	Oxford	1897 to date
J. H. Bobbitt	Raleigh	1899-1901
W. W. Horne	Fayetteville	1902 to date
C. D. Bradham	New Bern	1903-1909
C. B. Miller	Goldsboro	1905-1911
I. W. Rose	Rocky Mount	1910 to date
J. P. Stowe	Charlotte	1911-1916
C. P. Greyer	Morganton	1916 to date

It will be noticed that President Zoeller holds the record for long and continuous service. He was appointed in 1892. When his present term expires he will have served for twenty-five years; for twenty-three years as president of the Board. Mr. William Simpson comes next with twenty-two years. Both Mr. Hancock and Mr. W. W. Horne will have served twenty years when their present terms expire. Mr. Wearn served ten years.

During the thirty-five years of the Board of Pharmacy's existence there has been a continual evolution of its standards.

Today it compares most favorably with the other State Boards of Pharmacy. Its membership has always been made up of a high type of men. Its work has ever been progressive, its ideals high.

The Board of Examiners meets twice a year at Raleigh—usually in June and November. Formerly the summer session was held just prior to, and at the same place as the annual meeting of the Pharmaceutical Association. But in June, 1914, practical work was introduced as a part of the examinations, and this new feature necessitated a laboratory. For that reason the Board meets every time in Raleigh, and the laboratories at the A. and M. college are used by the candidates in making their preparations, etc. The written examinations are given in the Hall of the House of Representatives.

An examination charge of five dollars is made to candidates standing the examinations. The candidate, in addition, is required to furnish proof that he or she is eighteen years of age, and has had thirty-six months of practical experience in a drug store under the supervision of a registered pharmacist. (Attendance at a reputable school of pharmacy will be accepted for not more than twelve months in lieu of drug store experience.) All statements relative to experience must be sworn to before a notary public.

The examinations are mainly written, and are divided under four heads, namely:

1. Materia Medica, Posology, and Toxicology.
2. Theoretical Pharmacy.
3. Practical Pharmacy.
4. Pharmaceutical Chemistry.

Written questions are arranged as nearly as practicable into ten main questions under each head, with subquestions. A general average of seventy-five per cent, with not less than sixty per cent under any head or department, shall be required to pass.

It may be of interest to show the per cent of successful candidates who have stood the examinations of the Board for the past fifteen years.

Year	*Number Candidates*	*Number Successful*	*Per Cent Successful*
1900, June	34	29	85.2
1901, January	15	8	53.3
June	33	26	72.2
November	14	10	71.4
1902, June	16	7	43.7
November	22	16	72.7
1903, March	38	17	44.7
June	23	17	73.9
October	23	10	43.4
1904, March	36	25	69.4
July	20	11	55
December	15	9	60
1905, June	56	43	76.7
November	31	25	80.6
1906, June	48	29	60.4
November	38	18	47.3
1907, June	43	25	58.1
November	38	21	55.2
1908, July	56	39	69.6
December	46	21	45.6
1909, June	68	33	48.5
November	63	30	47.6
1910, June	79	35	44.3
November	59	31	52.5
1911, July	62	32	51.6
December	59	15	25.4
1912, June	73	34	46.5
December	64	30	46.8
1913, June	70	30	42.8
November	46	15	32.6
1914, June	81	35	43.6
November	51	23	45
1915, June	69	39	56.5
November	47	18	36.1

The largest per cent passed in June, 1900, 85.2.

The smallest per cent passed in December, 1911, 25.4.

The average number of successful candidates is 54.6.

For the past ten years the average per cent of successful candidates taking the summer examinations of the Board has been 52.19 per cent; taking the fall examinations has been 43.41 per cent.

Since 1900, there have been 1,536 men to take the examinations; 896 have passed; 640 have failed to pass the examinations.

J. G. B.

HANDSOME SOUTHERN DRUG STORES

The JOURNAL is very proud of the enterprising, modern Southern druggists. Time was, and not long since, when a really handsome drug store was a rarity this side of Baltimore. Not so now. Every Southern town that can boast a city-like size will furnish at least one, oftentimes several drug stores that would be a credit to any large city, North or South. And the happy fact is that not only are these stores pretty, but they are prosperous, and they are not yet too commercialized.

In looking over the photographic sections of different drug journals one is certain to be impressed by the beauty of Southern drug stores as shown in the pictures. Among the handsomest interior drug store views shown in the journals for the past year have been of stores located in such cities as Chattanooga, Atlanta, Houston, New Orleans, Birmingham, Charlotte, Wilmington, and Winston-Salem. They not only compare favorably with pictures of northern, eastern and western stores, but considered collectively, they are, if anything, handsomer and in better taste.

Pharmacy in the South is not waking up, it is wide awake.

J. G. B.

"GO WEST, YOUNG MAN; GO WEST"

The Journal has often wondered why it is that a young druggist with a limited capital nearly always tries to locate his new store in the larger towns of North Carolina and ignores the smaller places where a wider field and great opportunity await him. It would seem to be a case of the young fellow allowing his choice of residence to distort his business perspective.

The chances of failure of a new store in Charlotte, for example, are three times as great as they would be in Jefferson, Ashe County, or Bakersville, Mitchell County, or Kernersville, Forsyth County. For most people, the former attractive city offers many inducements in a social way that the smaller towns naturally cannot furnish. But it requires considerable money or good credit, and much perseverance and patience to make a new store a success in Charlotte. Furthermore, the margin of profit in Charlotte is less than it would be in a small village.

The ratio of drug stores to population in North Carolina for 1915 was one store to 3,846 people. This is a good ratio; much better than the general ratio for the United States, which was one to 2,000, according to the Era Druggist's Dictionary. Unfortunately, however, our ratio figures in this State do not furnish a good criterion by which to judge, for the drug stores are not wisely distributed. One area, like Durham, will have twenty-three stores to 18,000 people (less than 1,000 people to each store); another entire county, like Ashe, will not possess a single store, yet the general average seems reassuring. Twenty-three stores are not needed in Durham, but at least a few stores are needed in Ashe County.

The young pharmacist is presumed to look into the future when establishing a drug store. So few of them think of anything save present conditions. The counties in the extreme western part of the State are as yet undeveloped; they

do not furnish this year a very alluring field to young Ph.G.'s. But new railroads are rapidly being built in these counties; foreign capital is beginning to be poured in for local exploitation. As the increasing mileage of the railroads makes new territory accessible, tourists in rapidly increasing numbers begin coming in; the native people commence to wake up; mines are opened; mountain streams with untold power are gradually utilized for industrial projects; people from other sections of the State, either for health or wealth move in; and there is gradually developed a rich field within which a young druggist may locate his store, push his business and grow up with the country. Only a small outlay of capital will be needed. Living rates are comparatively cheap; expenses (rent, etc.) are low, and success is relatively sure.

Go West, Young Man; Go West!

J. G. B.

NEEDED—A HISTORIAN

There is a very urgent need for an active, capable historian in the Association. Some one qualified in every way should be appointed this year to serve in this capacity.

The Association should possess a biographical sketch, together with a photograph of all its presidents, secretaries, and treasurers, together with members of the Board of Pharmacy, and keep them for future reference. As each new set of officers are elected the historian could prepare his sketches of them.

The editor of the JOURNAL had occasion some time ago to need information about a former president of the Association who has been dead a few years. The proceedings of the Association from number one to number thirty-six were searched through in vain; not even the age of the officer could be found. Some member of the Association could perhaps have furnished this information, but what member? The

Association should have had a brief but complete history of this former president in its proceedings. The Association and its records are going to be in existence when all of us are dead, and we should hand down to succeeding generations such information as they will need for historical purposes. The proceedings of the Association should perpetuate more biographical data than it does. J. G. B.

WHY GO TO WRIGHTSVILLE IN JUNE?

There are thirteen reasons why every member in the North Carolina Pharmaceutical Association should go to Wrightsville Beach the fourth week in June. There are more reasons than we mention; those we do name are good ones.

Because:

1. It is your duty to go—a duty not only to yourself, but to the Association.

2. It will be a trip abounding in both pleasure and profit.

3. You will be given an opportunity to meet your fellow druggists, or to renew acquaintance with those you already know. The Association should be a large family of congenial friends. Congeniality with a stranger is a social impossibility.

4. You will hear a speaker of national reputation on a live subject of interest to you.

5. Your presence will lend inspiration to others, just as their presence will prove inspiring to you.

6. The more druggists that take part in the deliberations, the more representative the actions taken will be. Your being there will mean one more.

7. The railroad rates to Wrightsville in the summer are cheap.

8. Wrightsville is a good resort to visit, even when there are no druggists present. With several hundred of your co-

laborers on hand to lend a sympathetic atmosphere, it will be an ideal place for you to go.

9. Wrightsville is a great place to go fishing—
or to go sailing—
or to go in bathing—
or to go strolling—
and its Lumina dancing is famous.

10. Wrightsville is near Wilmington, connected by a trolley system. Thus, you can spend your days on the beach and your evenings in town, returning to sleep where cool breezes are always blowing.

11. The headquarters for the members, the Oceanic Hotel, is one of the most pleasant hostelries on the Atlantic seaboard. Splendid service, outside rooms facing the ocean, a good orchestra, fine food well prepared, and a genial management, all await your coming.

12. Druggists that you want to know or see are coming from all parts of the State: Justus from Hendersonville; Raysor from Asheville; Greyer from Morganton; Gray from Statesville; Stowe, Burwell, and Wearn from Charlotte; O'Hanlon and Welfare from Winston-Salem; Hicks, Birdsong, Hancock and others from Raleigh; Vaughan from Durham; Zoeller from Tarboro; Rose from Rocky Mount; Horne and Sedberry from Fayetteville; Matton from High Point; Dean Howell from Chapel Hill; Miller from Goldsboro; Bradham from New Bern; Hoods from Kinston, Smithfield, Dunn, etc.; Harper from Selma; Goodman from Mooresville; President Tarkenton from Wilson. And there will be "Doc Horne," and Haywood, Yearby, Lee, Shell, Thomas, Pilkington, Page, Crabtree, Grantham, Eubanks, Ahrens, Cole, Carter, and DeLameter, Reinheimer, Powers, Whitaker, Rowe. Foege ("John, Jr."), Miller, Patterson, Kershaw, and scores of others, new and old.

13. It is YOUR Association, speaking for your interests, working for your good, and needs your helpful influence.

J. G. B.

GET READY FOR ASSOCIATION MEETINGS

During the next few months will occur the annual State and National pharmaceutical meetings. It is none too soon to begin making plans for the convention trip, which should be an important event in each pharmacist's year.

Since the profit from association meetings is exactly proportional to the amount of individual effort put into them, if each member is to come away from the convention with any new and useful information gained from association with his fellow members, he should be willing to contribute his portion so that every other member will reap an equal share.

If each member would ask himself, "Have I paid my dues? Can I write a paper? Can I suggest one point of improvement in the conduct of Association affairs? Can I suggest some new idea which I would like to see worked out in my own business, which the Association can help me and all the other members to secure promptly? etc., etc., and devote a few hours' time to answer them, it will make all the difference in the world in association meetings and *in his own opinion of them.*

Associations are maintained presumably for the advancement of pharmacy professionally and commercially, and just as the association is a unit made up of the several members, so advancement is the product of the individual ideas and efforts contributed.—*Midland Druggist.*

PRIZES FOR PAPERS AT WRIGHTSVILLE

Human endeavors are usually greatest when stimulated by something besides the successful accomplishment of the undertaking itself. Most people demand remuneration for their labors; not only that they may thus be enabled to meet the demands of a material world, but in a large measure for the

pleasure of receiving a just compensation for the efforts involved. The offer of a prize will oftentimes prompt people to take part in a competition when they otherwise would not enter. This is human nature; it is therefore as near right as humans collectively are capable of being. If extraneous stimulants will produce desired results, then whenever possible such stimuli should be offered. All of which is preparatory to the following appeal.

The North Carolina Pharmaceutical Association earnestly desires to have as many good papers as possible presented at the annual meetings. With its present membership, representing as it does the best element in North Carolina pharmacy, there should be no less than thirty-five papers read each year at the meetings. If the work of preparing these papers were equally distributed it would mean that each member would read one paper every seven years. Surely this is a reasonable tax. Our main point is this, however. We want to appeal to the loyalty of those druggists in a position to do so to offer the following prizes:

1. Ten dollars in gold to that member preparing and reading the best paper this year at Wrightsville. The determination of the best paper to be left to the Chairman of the Papers Committee.

2. A membership in the American Pharmaceutical Association ($5) to be awarded that member preparing and reading the second best paper.

3. A one-year subscription to a standard drug journal as a third prize.

What loyal druggist, or manufacturing or jobbing firm, will volunteer to offer the first prize? Who will consent to stimulate professional interest by giving a membership in the A. Ph. A.? A subscription to a drug journal?

Write Chairman E. L. Tarkenton at Wilson about it at once.

J. G. B.

TWO CHANCES FOR A VACATION

The North Carolina druggist, planning his vacation for this summer, could not do better than to take a trip to the ocean. For a short-time, concentrated pleasure trip, no place can compete with the sea-coast, and the druggist will find this year two far-famed resorts that offer an especial appeal to him.

The North Carolina Pharmaceutical Association meets at Wrightsville in June. Railroad and hotel rates are reasonable, hundreds of other druggists are going, pleasure-a-plenty will be easily had, and an opportunity furnished of taking part in the important deliberations of the central organization of pharmacists in this State.

The American Pharmaceutical Association meets at Atlantic City in September. Every one knows of Atlantic City: A description of its attractions and attractiveness would be superfluous and out of place here. Suffice it to say that our national association of druggists will be in session there the fifth to ninth of September. A pharmacist who has never attended a convention of the American Association has much to look forward to; a pharmacist who has attended will make every effort to go without any urging upon our part.

Take both trips if you possibly can—one the early part of the summer to Wrightsville Beach to get in shape for the hot days and nights and the hard hot hours of toil, and the other to Atlantic City after the rush of business is over. This trip will refresh you and put you in good shape to face the winter. Either trip, or both, will be a good investment upon your part. A machine that is never oiled quickly wears out from excessive friction. A rural free delivery carrier kills or ruins a horse every year, not from too much mileage traveled or too many miles each day, but rather because he goes the same miles to the same place every day. If the druggist will get away from the store for a real vacation every summer, he will

not only decrease the friction and add years to his life, but he will make money for himself by being more efficient during the balance of the year. A boil may be worth ten dollars, but a vacation taken at the proper time and place is worth hundreds of dollars to a druggist. J. G. B.

A NORTH CAROLINA DRUG INDUSTRY

The editor, while on a recent trip to the western part of the State, spent a night in Marion and was next morning conducted through the large crude drug plant of S. B. Penick & Co.

While asked by the officials of the company not to describe the plant, or the methods employed, yet the editor is not betraying a trust in expressing his amazement at the size and capacity of the mills and at the quantity of crude drugs on hand, both ground and unground.

Very few North Carolina druggists realize the importance of this crude drug firm to the State, or appreciate what an advantage it is to many of the mountain people who can utilize dull seasons in gathering drug plants and dispose of them to this firm profitably. Penick's plant is a home industry, and, in view of the fact that his products are first class, it would be a gracious act for druggists in this State to specify the "Initial Line" when ordering powdered drugs.

DRUGGISTS AND THEIR PRICES AGAIN

Although the admonition is somewhat hackneyed, yet we cannot refrain from adding our voice to that of many other pharmacy journals in cautioning the druggists about increasing their prices during these stirring times of drug advances.

In the beginning we want to stress one point that is some-

times overlooked. If a druggist has found that he must clear a certain per cent *net* in order to profitably conduct his business (and surely every druggist knows what this is), this per cent must be received if a loss is to be avoided. For instance, if ten per cent net was made on phenol when it sold for fifty cents a pint, an equal per cent profit should be secured, now that it has advanced to a retail price of..... per pound, no matter how exorbitant the charge appears to the customer. To do otherwise is suicidal to earnings. With charitable and semi-charitable customers, allowances can of course be made, but we are speaking of the general run of trade. Very few customers would or could appreciate it if the profits were reduced one-half, because the advance has made them suspicious anyway and the regular profit had as well be added.

The whole matter resolves itself into a question of whether the druggist or the customer is to bear the loss. This loss is multiplied many times a day if the druggist is to bear it, and only occasionally does each customer have to shoulder the burden of the increased cost.

Now, to consider briefly the case of the druggist having on hand a quantity of a chemical bought before the war, which has advanced, we will say, a hundred-fold in price. Shall he sell it at current prices, or at a price which allows him only his regular modicum of profit? We would qualify our answer: circumstances must determine the procedure. If the druggist has the only store in a town, it is only just to continue the old charges regardless of the selling price in other places, since he needs to extract merely his stipulated per cent net profit. (This is the same kind of argument we used at the beginning.) But, on the other hand, if the druggist is in a community having several pharmacies, and the other stores have had to buy their supplies of the chemical since the advance was made, then we contend that the druggist who

is supplied should ask the same for his chemicals as the other druggists ask for theirs in order to keep the local market prices as stable as possible, and in order that the public may not be given an opportunity to think harshly of the druggists who have made the advance, which it would not be so prone to do if the custom were general. Retail drug prices will never be entirely uniform even in one city, whether conditions are normal or as they are now. So many factors determine the charges that have to be made—cost of doing business, extent of capital, volume of business, etc. But every druggist should see to it that his regular margin of net profit is maintained regardless of the market fluctuations and the public purse. He barely manages to eke from his business a living wage anyway, and he owes it to himself and to his family not to sacrifice this. He should not put on all the traffic will bear, but be just to himself. J. G. B.

NORTH CAROLINA IN THE AMERICAN PHARMACEUTICAL ASSOCIATION

By W. W. Wiggins, Class of 1916

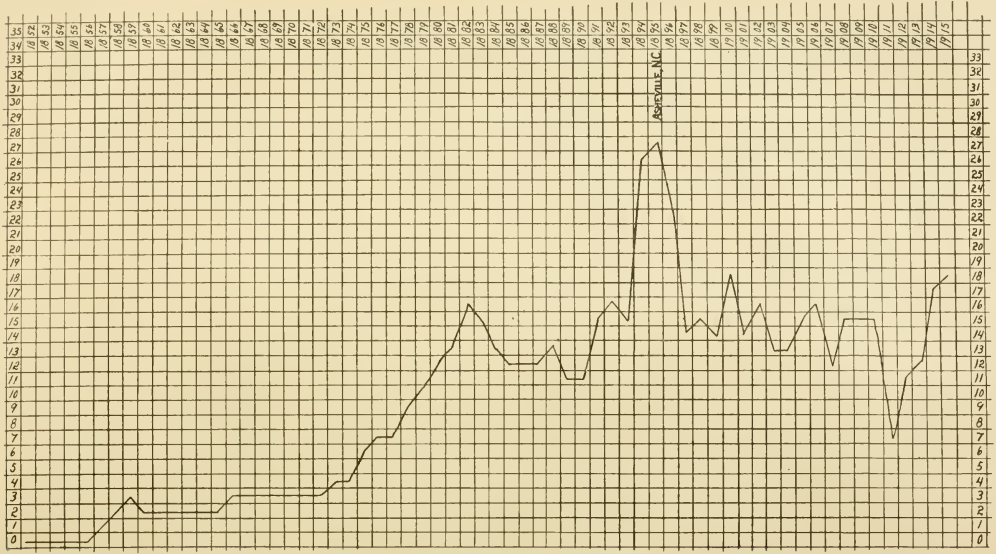
Members of the American Pharmaceutical Association in this State since 1857:

RALEIGH

Lee, Addison Sherwood	From 1873 to 1888
Simpson, William	From 1873 to 1904
Hunter, Buxton Williams	From 1891 to 1896
Simpson, Robert	From 1891 to 1893
Bobbitt, James Henry	From 1894 to 1901
Bradley, Augustus	From 1894 to 1898
Hicks, Henry Thomas	From 1898 to 1902
Sprague, John Frederick	From 1908 to 1909

ASHEVILLE

Lee, James H.	From 1880 to 1885
Jacobs, Frederick Louria	From 1891 to 1895
Smith, Whiteford Gamewell	From 1892 to 1906
Pfaffin, Henry Andolph	From 1892 to 1909
Raysor, Cornelius Ayer	From 1908 to 1910



A Diagram Showing North Carolina's Membership in the American Pharmaceutical Association from 1853 to 1915.

FAYETTEVILLE

Hinsdale, Samuel J.....From 1875 to 1888
Sedbury, Bond E.....From 1882 to 1889
Horne, Henry Ruffin.....From 1891 to 1895
Horne, Warren Winslow.....From 1902 to date

CHARLOTTE

Smith, Thomas C.....From 1876 to 1880
Wearn, William Henry.....From 1888 to 1902
Walker, Thomas Arthur.....From 1900 to 1902
Williams, Morris Patton.....From 1902 to 1904
Stowe, James Pinkney.....From 1914 to date

WILMINGTON

Munds, James C.....From 1878 to 1889
Harding, John Haywood.....From 1881 to date
McIlhenny, John K.....From 1881 to 1887

CHAPEL HILL

Saunders, Richard B.....From 1858 to 1889
Howell, Edward Vernon.....From 1900 to date
Beard, John Grover.....From 1914 to date

DURHAM

Vaughan, P. W.....From 1882 to 1910
Yearby, William Morgan.....From 1894 to 1902

NEW BERN

Menninger, H. J.....From 1866 to 1872
Hancock, Franklin Wills.....From 1888 to 1900
Gooding, Robert Jacob.....From 1890 to 1895
Bradham, Caleb Davis.....From 1902 to 1910

WINSTON-SALEM

Smith, Samuel H.....From 1879 to 1883
McArthur, Robert Milton.....From 1908 to 1910

WASHINGTON

Gallagher, Charles K.....From 1857 to 1895
Gallagher, James M.....From 1875 to 1877
Field, Davis Meade.....From 1912 to date

CONCORD

Fetzer, Nevin D.....From 1894 to 1896
Johnson, Daniel Dudley.....From 1894 to 1901

TARBORO

Zoeller, E. V.....From 1878 to date
Cordon, John Grey Meyers.....From 1882 to 1892
MacNair, Whitmel Horne.....From 1898 to 1906

GREENSBORO

Porter, W. C.....From 1880 to 1887
Mebane, Robert Sloan.....From 1894 to 1896

BEAUFORT

Mace, F. Barden.....From 1878 to 1882
Davis, Joseph Benjamin.....From 1880 to 1883

MORGANTON

Leslie, William Augustus.....From 1902 to 1906
Greyer, Charles Peyton.....From 1912 to date

TRYON

Oliveros, Sidney Alphonse.....From 1907 to 1909
Missildine, Ernest Ellwood.....From 1910 to 1911

LYNCHBURG

Bunn, J. Hortley.....From 1859 to 1882

GOLDSBORO

Hatch, Eugene Francis.....From 1883 to 1892

OXFORD

Crawford, Thomas Dalzell.....From 1888 to 1893

KINSTON

Parrott, John Evans.....From 1890 to 1896

MAXTON

Croom, James Dallas.....From 1890 to 1897

PLYMOUTH

Chears, Henry Randolph.....From 1893 to 1895

FRANKLIN

Smith, Frank Taylor.....From 1894 to 1897

HENDERSON

Parker, Walter Wellington.....From 1894 to 1896

HICKORY

Royster, Olin Marcus.....From 1894 to 1896

WADESBORO

Hardison, J. A.....From 1894 to 1895

WAYNESVILLE

Way, David .....From 1894 to 1896

SCOTLAND NECK

Whitehead, Eugene Thomas.....From 1900 to 1907

ROWLAND

Ward, Homer B.....From 1901 to 1910

CHINA GROVE
Swaringen, Dewitt Clinton.....From 1905 to date

WILLIAMSTON
Biggs, Warren H.....From 1905 to 1908

SMITHFIELD
Hood, William Dameron.....From 1905 to 1909

SANFORD
Reid, William Watts.....From 1906 to 1907

HIGH POINT
Ring, William Alexander.....From 1909 to 1910

LENOIR
Shell, Junius E.....From 1908 to 1910

SOUTHPORT
Watson, George Yandell.....From 1910 to 1911

ROCKY MOUNT
Rose, Ira Winfield.....From 1912 to date

WILSON
Tarkenton, Edward Lawrence.....From 1912 to date

BRYSON CITY
Bennett, Kelly Edwin.....From 1913 to date

MARION
Penick, S. Barksdale.....From 1914 to date

LUMBERTON
McDonald, John Steadman.....From 1914 to date

ANDREWS
Howard, James D.....From 1914 to date
Davis, Hamilton Ewart.....From 1915 to date

"ATTEND THE WRIGHTSVILLE MEETING," SAYS TREASURER BURWELL

(The following letter from Mr. G. E. Burwell, Treasurer of the North Carolina Pharmaceutical Association, reminds us of the great work he has done for the Association during the past year. Treasurer Burwell, besides performing in a creditable manner the many duties of his office, has secured thirty new members for the Association since the last meet-

ing. If every officer had done as well there would have been 330 new members taken in. If every member could have equalled his record, there would be 7,500 new ones to add to the roll. Of course there are not that many registered druggists in the State, but the figures are given merely to show the magnitude of Mr. Burwell's work. We congratulate the Association on having such an officer. Editor.)

Charlotte, N. C., April 11, 1916.

Mr. J. G. Beard, *Chapel Hill, N. C.*

Dear Sir:—You ask me to give some reasons why I and other members of the North Carolina Pharmaceutical Association should attend the annual meeting to be held in Wrightsville, June 20-22 next.

This may seem a simple thing to do, but I do not find it so. Sometimes a thing is so obvious that one takes it for granted, and when asked for a reason finds it hard to give one.

What is the North Carolina Pharmaceutical Association? Is it not an organization of men of like minds and purposes, engaged in some form of the drug business, either as employer or employee, the object of which is to further the interests of pharmacy as a profession and that of the members financially?

How better, then, can these objects be attained than by attending the annual meetings, getting acquainted with our fellows, exchanging ideas, and helping shape the course of pharmacy for the future?

Many of those outside the drug business have very erroneous opinions concerning it. As a consequence we are often the objects of attack by way of adverse legislation in the shape of special taxation and otherwise.

The only way our interests can be protected and advanced, professionally and commercially, is by thorough organization, and I unhesitatingly say it is the simple and plain duty of every registered druggist to be a member and supporter of his State Association.

Very truly yours, G. E. Burwell.

BOOST FOR A BIGGER, BETTER ASSOCIATION

By E. L. Tarkenton, President N. C. Pharmaceutical Association

Before another issue of this Journal appears your thoughts will be centered on how you are to spend a few days away from your business to combine pleasure and profit.

I make an appeal to you to make an especial effort to attend the meeting of the N. C. P. A. at Wrightsville in June. You cannot derive benefit from your State organization by staying at home. Will you attend and let us present a united front and fight for the interest of our profession. Do any of us, even the most sanguine, appreciate what could be done if every retail druggist in North Carolina was a booster? Suppose each druggist in the State was a member of our grand old organization, don't you know we could be a power? Will you be a booster? Will you contribute to a movement that will help you directly; will you be one of the members at our next meeting engaged in the great fight for the elevation of our profession and betterment of our financial condition?

If the druggists in North Carolina were well organized we could get everything that in reason belongs to us; better prices, better profits, more rest, more happiness. There is no investment that you can make that will bring you greater returns than organization. True it does not shove the dollars in your pocket directly, but it helps to defeat unjust laws, makes living prices, increases friendly relations, and in every way makes you a better druggist.

Lay aside your indifference and display more interest. Make your plans to attend the N. C. P. A. in June. If you are not a member, come and joint with us. The Association needs you and you need the Association. If you have any business perplexities or problems let us discuss them and be mutually helpful. Organization tends toward contentment. Come and let us make this the biggest, most successful convention that we have ever held.

WHY I AM A MEMBER OF THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

By J. G. Beard, Secretary N. C. Pharmaceutical Association

Every druggist in this State should join the North Carolina Pharmaceutical Association because the organization stands for those conditions which can only be brought about by *concerted* action, and for ideals only possible to achieve through a membership that is representative. One man's voice in demanding reform, civic or State-wide, is insignificant. One thousand voices united in a common cause can effect any reasonable purpose. No druggist has a right to share benefits secured through the toil of his brothers, if he himself has stood aloof and refused to lend is name and time. The mere fact that every other profession—and every trade for that matter—has considered it essential to act in union, is good proof that organization is imperative. A druggist owes a duty to the vocation he has adopted. This duty is to advance the interests of his calling in every possible way. The logical way is harmonious, coöperative, unified endeavor, as typified in the objects of the North Carolina Pharmaceutical Association. If any druggist not a member disapproves of previous acts of the Association, he should at once affiliate himself and fight against a repetition of the evil, and if he refuses to become a party to the only institution that can logically offer him help, he has no moral right to whine if some organic move affecting his interests is made and to which he is opposed. The fee of one-half a cent a day is a trifle, especially as compared to the benefits secured by membership.

Not all church members are saints; not all association druggists are perfect; but the organizations behind both of them stand for conditions we all aspire to. Be a citizen in the republic of pharmacy, not an alien. Join at once, if not already a member, and, as President Tarkenton says, "boost for a bigger, better Association in nineteen sixteen."

"500 for 1917."

WHY I AM A MEMBER OF THE N. C. P. A.

C. P. GREYER, MORGANTON

If you ask a man why he belongs to a certain political party he will immediately tell you that he believes in the principles for which his party stands. The principles on which the N. C. P. A. is founded are the same principles that brought into existence free government. And not until individualism and jealousies were laid aside was it possible to form a United Republic.

The foundation of society is coöperation. The family, the tribe, the village, the State, are all stages of coöperation, and the perfection of each depends upon the effectiveness of the coöperation. And so the fundamental principle of the N. C. P. A. is coöperation. The very term "unite for mutual aid" signifies the coöperative basis of our associative existence. This means a broader outlook than the mere quest for money. It means greater principles than can be measured by dollars and cents. If it did not the motive would be too sordid to encourage any great degree of enthusiasm, and without enthusiasm no movement can make progress.

This is an age of organization and associations. They are a means of education, they provide a way for constructive efforts, and they are essential to the economic and speedy achievement of reforms. The N. C. P. A. is the instrumentality by which great achievements have been won for pharmacy. Its success is the result of coöperative efforts.

The ship of industrialism is sailing away from selfishness.

The pilot of progress is steering to coöperation. Get in the lifeboat and paddle along the spirit of mutual helpfulness.

OFFICERS, COMMITTEES, AND DELEGATES OF THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION, 1915-1916

OFFICERS

E. L. TARKENTON, President ..... Wilson
E. G. BIRDSONG, First Vice-President ..... Raleigh
G. A. MATTON, Second Vice-President ..... High Point
S. E. WELFARE, Third Vice-President ..... Winston-Salem
J. G. BEARD, Secretary ..... Chapel Hill
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W. W. HORNE ..... Fayetteville
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E. V. HOWELL ..... Chapel Hill
E. E. MISSILDINE ..... Tryon
C. P. GREYER ..... Morganton
W. W. HORNE ..... Fayetteville

Tennessee Association

C. A. RAYSOR ..... Asheville
R. A. MCDUFFIE ..... Greensboro
K. E. BENNETT ..... Bryson City

Medical Society

E. W. O'HANLON ..... Winston-Salem
W. A. LEGGETT ..... Edenton
E. V. HOWELL ..... Chapel Hill

South Carolina Association

J. P. STOWE ..... Charlotte
P. W. VAUGHAN ..... Durham
C. C. SEAWELL ..... High Point

Virginia Association

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F. G. JACOCKS ..... Elizabeth City
C. P. HARPER ..... Selma

Maryland Association

GEO. A. MATTON ..... High Point
C. B. MILLER ..... Goldsboro
IRA W. ROSE ..... Rocky Mount

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JESSE CARTER ..... Aberdeen
P. A. LEE ..... Dunn
J. G. BEARD, *ex officio* ..... Chapel Hill

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I. W. ROSE ..... Rocky Mount
W. W. HORNE ..... Fayetteville
C. P. GREYER ..... Morganton

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A. V. BAUCOM ..... Apex
G. C. GOODMAN ..... Mooresville

Adulterations

E. V. HOWELL, *Chmn.* ..... Chapel Hill
J. E. SHELL ..... Lenoir
WILLIAM H. BLAUVELT ..... Asheville

Papers and Queries

E. L. TARKENTON, *Chmn.* ..... Wilson
SAMUEL CARTER ..... Salisbury
JNO. L. HENDERSON ..... Hickory

Reporter on Progress of Pharmacy

J. G. BEARD ..... Chapel Hill

Membership

C. P. GREYER, *Chmn.* ..... Morganton
G. E. BURWELL ..... Charlotte
BURNEY S. WARREN ..... Greenville

The Association Meets in 1916 at Wrightsville Beach, June 20, 21, 22.

D. A. Elvington, Wilmington, Local Secretary.

THE WILLIAM SIMPSON PHARMACEUTICAL SOCIETY FOR THE YEAR 1915-16

By N. B. Herring, Class of 1916

The college year of 1915-16 has proved itself to be one of the most successful years the William Simpson Pharmaceutical Society has ever enjoyed.

The session was begun with only eight (8) old members. The Secretary's roll book now contains the names of forty (40) active members. This is the largest enrollment the Society has ever had.

Mr. A. L. Fishel of the third year Pharmacy Class, who, as President, started the society off this year on its successful career, was succeeded by Mr. J. E. Turlington, of the second year class, at the mid-term election of officers. Both men have proved themselves very capable of holding the office.

The Society has held several "smokers" during the year. The purpose of these "smokers" is to get the men together so that they may know more of each other. In this way every one is made to feel perfectly at home in the Society Hall. Every "smoker" has been thoroughly enjoyed by all, and they have abounded in short talks, and tales of experiences different students have had while working in drug stores. At the first "smoker" Professor Beard, of the Pharmacy Department, made the Society a very enjoyable talk on "Good Fellowship," which he said should exist among all college boys.

It has been the purpose of the Society to have some member of the faculty with them as often as possible, to make talks along scientific lines as well as on any other general topics. Several professors have already spoken before the Society, and before the year is out we expect to hear from others of the faculty.

The real object of the Society, however, is to get the pharmacy men together and have them discuss and read papers on matters of interest to men of the profession. By doing

this interest is aroused in matters concerning the druggist, and a great deal of knowledge is gained by the members.

Papers have been read by the different members on subjects that cover quite a number of things of interest to druggists. Some of these papers have been on some drug or proprietary preparation that the student has made himself thoroughly acquainted with, and others on modern advertising and profitable methods of handling sidelines. I will not attempt to give the different subjects that have been read and talked about in the Society this year, for there is too great a number of them. I will say, however, that they have ranged all the way from the soda fountain to the prescription counter, and have covered a great number of matters of practical interest that never come up in a lecture room.

It is our sincere wish that some day every man in the Department will be a member of the William Simpson Pharmaceutical Society, and from the progress that has been made this year, we predict that the day is not far distant.

NEW NORTH CAROLINA DRUG STORES

Caton's Drug Store is the name of a new and handsome store recently opened on South Poplar and West Trade streets, Charlotte. The store will be managed by Mr. Earl Caton, a druggist of much experience, who, until a short time ago, was with the Moody Drug Co., Charlotte.

The Rhyne Drug Co., Gastonia, was recently incorporated. Paid in capital $2,500, with $5,000 authorized. The incorporators are: D. P. Rhodes and Paul Rhodes, Lincolnton, and C. L. Rhyne, Gastonia.

A firm composed of J. T. Smith, W. T. Allison, and Dr. J. S. Talley, will conduct the Troutman Drug Co., Troutman, a new store.

Southside Drug Co., Wilmington, retail druggists. Authorized capital stock, $10,000; paid in, $3,000. Jesse G. Harper, M. T. Y. McManus, and George Zimmerman, incorporators.

Yadkin Drug Co., Salisbury, wholesale and retail druggists. Authorized capital, $25,000; paid in, $3,000. J. P. Sanders, P. A. Hayes, Mrs. P. A. Hayes, of Greensboro, and J. P. Hayes, of Randleman, incorporators.

Powell & Nimocks, Asheville, retail druggists. Authorized stock, $10,000; paid in, $3,150. The incorporators are George T. Nimocks, D. E. Powell, C. L. Sikes, W. E. Powell, and D. H. Ramsey, all of Asheville.

A NOTE ON FORMALDEHYDE DISINFECTION

E. V. HOWELL

By experimental work, the gas liberated on the addition of a solution of formaldehyde to potassium permanganate was condensed, examined, and found to be formaldehyde. A second experiment was made on three disease germs in gelatin cultures in test tubes. In triplicate tests they were not killed by being subjected to the vapor of formaldehyde in a closed box for one hour and thirty minutes. This one experiment should lead to more exhaustive research, as there is a tendency to accept formaldehyde disinfection as sufficient safeguard, and perhaps omit simpler and, I think, more efficient means.

HISTORICAL SECTION

CONDUCTED BY DEAN E. V. HOWELL

In a letter in our possession, Dr. Benjamin Rush, of Philadelphia, recommends the inoculation of itch for nervous troubles of long standing.

In 1802 the Medical Society of North Carolina made an attempt to collect the indigenous plants of the United States. A member was appointed to superintend their collection and cultivation for a Botanic Garden. Measures were taken to form a library and to form a "Museum of anatomical preparations and other curiosities of nature and art as may be deemed worthy of preservation."

An article entitled "On the Topography and Diseases of Greenville, on Tar River, North Carolina," was written by Dr. Pillson of that place, and published in the Medical Depository in 1802.

FIRST MEETING OF THE MEDICAL SOCIETY OF NORTH CAROLINA

On Monday, the 16th of April, 1800,* a convention of the Faculty was held in the city of Raleigh, associated under a constitution and form of government by the name of the "North Carolina Medical Society"; and the following gentlemen were elected officers for the ensuing year:

Richard Fenner, President.
Nathaniel Loomis and John Claiborne, Vice-Presidents.
Sterling Wheaton, James Webb, James John Pasteur, and Jason Hand, Censors.
Calvin Jones, Corresponding Secretary.
William B. Hill, Recording Secretary.
Cargill Massenburg, Treasurer.

The following gentlemen were appointed to deliver dissertations on some medical subject at the next meeting of the Society, viz., J. J. Pasteur, J. Webb, S. Wheaton, and N. Loomis.

*The charter was obtained December 23, 1799.
The *Medical Repository* and *Review of American Publications on Medicine, Surgery, and the Auxiliary Branches of Philosophy*, by Samuel L. Mitchell, M.D., F.R.S.E., and Edward Miller, M.D., Vol. IV, New York, 1801, page 202.

PERSONALS

Harry Riddle is now employed by Leslie's Drug Store at Morganton. Mr. Riddle was formerly druggist at the State Hospital.

J. P. Bradley, of Greensboro, has recently purchased an interest in the Elm Street Pharmacy of that city and will henceforth act as manager of the store, Mr. Bradley has been with Farriss-Kluttz Drug Co. for the past six years.

R. J. Sykes, of Greensboro, has sold his interest in the Conyers-Sykes Co. to C. M. Fordham and C. O. Pickard, and has purchased the Conyer's Drug Store, of Greensboro. Mr. Judson Boaz will assist him in the store.

Died February 20, at his home in Spencer, J. Elwood Knox, druggist.

ALUMNI NOTES

Ralph Kibler, Ph.G., 1907, while in college assistant in pharmacy, has opened a new drug store in Morganton. Mr. Kibler has for several years conducted a store in Spartanburg, S. C. We welcome him back into the State.

J. F. Andrews, Ph.G., 1915, Durham, has resigned his position with Haywood & Boone, druggists, and has accepted a position with the Emerson Drug Co., headquarters New York City.

Charles Hiram King, 1905, of Durham, was married at noon March ninth, to Miss Margaret Scism, also of Durham.

Rupert Jernigan, 1915, until recently one of the owners of the Carolina Drug Co., Chapel Hill, is now employed by the Farriss-Kluttz Drug Co., Greensboro.

R. A. McDuffie, Ph.G., 1915, the first Business Manager the Carolina Journal of Pharmacy had, has resigned his position with the Elm Street Pharmacy, Greensboro, and has returned, as he expresses it, "to my old home, Howard Gardner's Drug Store." Everybody knows where Howard Gardner's Drug Store is.

R. N. Mann, 1916, High Point, has accepted a position with Welfare's Drug Store, Winston-Salem. He takes the place of George Byrd (1916), who resigned.

J. G. Beard, Ph.G., 1909, Chapel Hill, delivered an address March 18, to the faculty and students of the Stanly McCormick School, Burnsville, N. C., on the subject, "Patent Medicines; Their Uses and Abuses."

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